COUNTWAY LIBRARY
HC 559Q V

MODERN NURSING IN HOSPITAL & HOME

E. C. LAURENCE

22-J-61.

W. H. BAILEY & SON'S

Water and Air Beds, Pillows, Cushions, Bed Sheets,

ETC.

BOSTON

MEDICAL LIBRARY

8 THE FENWAY.

FIG. 3. FIG. 7.

Solid India-rubber Aseptic Washable Air Cushions, for bedsores, etc. :—

	Diam. 8	10	14	16	18	20	22 ins.
FIG. 3.—Red Circular,	5/-	6/-	9/4	11/3	14/-	16/10	20/4
	Size, 14 × 14	16 × 16	18 × 18	20 × 20	22 × 22 ins.		
FIG. 7.—Red Square,	10/9	14/-	16/9	20/-	27/-		

W. H. Bailey & Son, Ltd.,

Manufacturers of Surgical Instruments, Hospital and Sick Nursing Appliances, Trusses, Elastic Stockings, Abdominal Belts, etc.

38 OXFORD STREET, LONDON - For Surgical Instruments and Appliances.
2 RATHBONE PLACE, LONDON - For Hospital and Invalid Furniture.

City Branch: 52 FORE STREET, E.C.

Telegrams—"Bayleaf, London". Telephone—2942 Gerrard.

WELLS & CO.

SPECIALISTS IN

CLOAKS & BONNETS.

68 ALDERSGATE STREET, LONDON, E.C.

(Opposite Aldersgate Street Station, District Railway).

Special Designs for Hospitals and Private Nursing Institutions submitted immediately upon receipt of special requirements.

EVERY CLOAK GUARANTEED MADE TO INDIVIDUAL MEASURE.

All Nurses are invited to make use of our new Show Room for keeping appointments, letter writing, &c., &c.

WRITE FOR OUR

RED CATALOGUE.

ANTIPHLOGISTINE.

Inflammation's Antidote.

Method of Application in Inflammatory Conditions of the Joints.

A most useful adjuvant in the Treatment of Superficial and Deep-seated Inflammatory Conditions when a Local Application is indicated.

Samples and Literature free upon application to

The Denver Chemical Manufacturing Co.,

41 ST. ANN'S ROAD, BURDETT ROAD,

LONDON, E.

JOHN TULLEY,

Complete Hospital Furnisher

and Nurse's Outfitter,

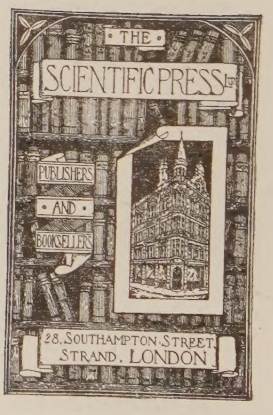
297, 295, 293, 289 FULHAM ROAD,

LONDON, S.W.

Departments.

Household Linens.	Hosiery and Gloves.
Bedsteads and Bedding.	Haberdashery.
Carpets.	Costumes and Cloaks.
Linos.	Millinery.
Blinds and Upholstery.	Aprons, Caps and Strings.
Laces.	Nurses' Bonnets.

ESTIMATES FREE.


THE
SCIENTIFIC PRESS LTD
PUBLISHERS
AND
BOOKSELLERS
28, SOUTHAMPTON STREET,
STRAND, LONDON

MODERN NURSING

IN

HOSPITAL AND HOME

A SHORT COURSE OF
LECTURES TO PROBATIONERS

BY

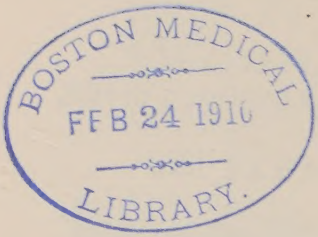
E. C. LAURENCE, R.R.C.

MATRON, CHELSEA HOSPITAL FOR WOMEN;
LATE SISTER AT GUY'S HOSPITAL; LADY SUPERINTENDENT,
PRINCESS CHRISTIAN HOSPITAL, SOUTH AFRICA; AND MATRON,
VICTORIA HOSPITAL, KEIGHLEY

LIBRARY.
SURGEON GENERAL'S OFFICE.
FEB 11 1908
108569

LONDON
THE SCIENTIFIC PRESS LIMITED
28 & 29 SOUTHAMPTON STREET, STRAND, W.C.
1907

6721



PREFACE

THE following pages have been used as a Course of Lectures to Junior Probationers, and the Author hopes they may be of some help to young Nurses in their work, and possibly to some Sisters and others who have to lecture to Nurses or Orderlies and have not time to work up a complete set of Lectures for themselves.

Some of the chapters (or parts of them) have been already published in the *Nursing Times* or in the *British Journal of Nursing* and are reprinted by kind permission of their Editors.

E. C. L.

Digitized by the Internet Archive
in 2025

https://archive.org/details/modernnursinginh0000ecla

CONTENTS

CHAPTER		PAGE
I.	Hospital Life and Hospital Manners—The Distinction between the Work of Doctors and Nurses—The Care of Personal Health	1
II.	Ward Ventilation—General Ward Work and Cleaning—Care of Blankets, Linen, Mackintoshes, etc.—Beds and Bed-making—Stretchering of Helpless Patients	13
III.	The Washing of Patients—Care of Patient's Clothes and Valuables—The Prevention of Bed-sores—Rest, Bodily and Mental	26
IV.	The Feeding of Patients — Rectal Feeding — Nasal Feeding, etc.	37
V.	The Observation of the Temperature, the Pulse and the Respiration—The Observation of the Motions, the Urine, the Vomit, and the Expectoration	47
VI.	The Giving of Enemata—The Use of Catheters—The Giving of Douches—Hypodermic Injections	58
VII.	Counter-Irritation—Treatment by the Application of Cold	67
VIII.	Treatment by the Application of Heat—Care in the Use of Hot Bottles	79
IX.	The Administration of Medicines and Stimulants—Poison Cases and their Treatment	90

CHAPTER PAGE

X. Splints—Bed Cradles—Surgical Dressings, etc. . . . 102

XI. Accident Cases—Burns and Scalds—Fractures—Abdominal Injuries 111

XII. The Preparation of Patient and Theatre for Operations—The Nurse's Duties at an Operation—Hæmorrhage and its Treatment—Transfusion and Venesection . 120

XIII. The After Care of Operation Cases—Abdominal Sections, etc. 132

XIV. Tracheotomy and Intubation Cases 142

XV. Special Points to be remembered in the Nursing Care of some Medical Cases 151

XVI. Infectious Diseases—The Nursing of Typhoid Fever . 161

XVII. Infectious Diseases (*continued*)—Rigors . . . 170

XVIII. Babies and their Feeding—Economy in the Use of Hospital Property, etc. 181

FFB 24 1910
LIBRARY.

CHAPTER I.

Hospital life and hospital manners—The distinction between the work of doctors and nurses—The care of personal health.

Hospital life must be different to home life: each member's individual tastes cannot be considered as they are at home. It makes very little difference in a private house if one comes in half an hour later than usual, but in hospital five minutes late may make a great deal of difference to the patient who is waiting for you to do something for him, or to the fellow-worker who cannot go off duty till you return and so misses an important engagement.

When you enter a hospital for training you must make up your mind that, for the next few years, your training is the matter of the most importance to you, and that your off-duty time is given for rest and recreation, so as to fit you to be active, observant and energetic when on duty.

It is often difficult for a nurse to impress this upon her friends and relations; they are inclined to think that she requires a great deal of amusement to counteract the harrowing scenes which they imagine she has to encounter in the wards,—some amusement is certainly good for every nurse, but I think any form of amusement that requires very much energy should be saved up for the day or half-days off duty, and that the few hours you are free each day should be spent in getting a little fresh air and exercise, but not in rushing

about to keep appointments, and returning just in time for duty, hot and tired and quite unfitted for the work that is waiting for you to do. But though the life must be different, the manners should not be different from those of home; a certain amount of "hospital etiquette" is necessary, but a girl who is quiet and gentle at home should be very careful that she never becomes noisy and loud because she is now a member of a large staff and has to bustle about and learn to be quick in all her actions.

You will meet many different classes of patients, and some of them will be more difficult to satisfy and more difficult to manage than others, but you will find that if you maintain a pleasant but dignified manner to all and never allow any familiarity you will invariably receive obedience and respect from your patients; don't *expect* your patients to be grateful; you will meet with plenty of gratitude if you don't expect it.

The necessary house-work in a hospital ward may often seem very irksome to a probationer, and you may think it would be far better to have servants to do it; certainly it *might* be done by servants, but it is probably better done by nurses who can grasp the necessity for absolute cleanliness and understand the effect it has in hastening the healing of wounds; also a nurse will always be a better sister and a better teacher of probationers if she has done the actual work herself, and knows *how* bright the brasses should look and *how* well swept the ward can be.

I will now give you a short extract from Miss Oxford's excellent book on Nursing which gives an old but good definition of what a nurse should be.

Taken from a little book published in 1557, which sets forth the duties of the officers in the hospitals of King Henry VIII. and King Edward VI., under "The Charge of the Nurses

and Keepers of the Wards," the following paragraphs occur :—

" Your charge is faithfully and truly to serve in this house and to obey the matron thereof. Ye shall also fly and eschew all railing, scolding, swearing and drunkenness. Ye shall in your behaviour be virtuous, loving and diligent. Ye shall also carefully and diligently oversee, keep and govern, all those tender babes and younglings that shall be committed to your charge, and the same wholesomely, cleanly and sweetly, nourish and bring up. And in like manner shall ye keep your wards and every part thereof sweet and clean. Ye shall also, to avoid all idleness, when your charge and care of keeping the children is past, occupy yourselves in spinning, sewing, mending of sheets and shirts, or some other virtuous exercise, such as you shall be appointed unto. Ye shall . . . see that all your children, before they be brought to bed, be washed and clean, and immediately after, every one of you quietly shall go to your bed and not to sit up any longer. These are the especial parts of your charge, which ye shall endeavour with all your powers to observe and keep, or else ye shall . . . be expulsed and banished this house for ever. And whatsover faults ye shall perceive in any other officers in this house, the same ye shall declare unto the Governors and not otherwise meddle or make but in your own business."

When we turn to more modern writers on the subject, the qualifications they consider necessary for a good nurse are so numerous that if I quoted them all I am afraid I might frighten you, so I have selected the ten qualifications that I consider the most essential and you can add to them *ad lib.*

We will, very briefly, look into the necessity for each of these qualifications.

A nurse must be absolutely Truthful in the smallest de-

tail, and she must fearlessly speak the truth even if she suffers by doing so. She must be very exact in reporting to sister or doctor,—never say a patient "has had a good night" because the patient was not fretful and complaining at lying awake. When a patient becomes worse be exact in reporting when the bad symptoms first appeared, not when they became so alarming as to make you send for help. If a question is asked you and you don't know for certain, say so—no one will think the worse of you for not knowing, but they will if you tell them incorrectly.

A nurse must be OBEDIENT. No army can be successful in the field unless the general can rely on absolute obedience in all the different ranks, and no hospital can be successful in its campaign against disease unless the honorary staff can rely on absolute obedience all down the different ranks to the junior probationers. Later on when we come to speak of surgical cleanliness you will learn how one little mistake may spoil all the efforts of the surgeon, the sister and the nurses in doing (and assisting at) an "aseptic operation". For the present I would only impress upon you to be obedient in carrying out *exactly* the directions given to you,—if you are told to give a child two-ounce feeds don't give three ounces because the child cried for more, remember that the responsibility rests with the one who gave the order; on the other hand, I do not wish to urge upon you blind obedience; for example, if you should ever be told to give an ounce of medicine when you know that a drachm is the usual dose, go quietly to the one who told you and ask whether you really understood aright; it is far better to risk offending a senior than to risk injuring a patient; but afterwards (if this should ever happen) there is no necessity for you to boast about having prevented a mistake—you only did your duty, and we must try to be loyal to each other.

A nurse must be CALM. If you have ever been very ill yourself you will not need to be told what a comfort it is to have a well-trained calm nurse to depend upon. When a bad case is brought into a ward don't *run* to receive it if the sister or staff nurse is there, go quietly and see that the bed is quite ready and put some screens round. If a patient suddenly becomes worse don't *run* for help, get help as quickly as possible, but running alarms the patient, who is already quite sufficiently alarmed at feeling so ill. If you notice that a patient is dying, quietly screen him round—a clever nurse will manage this before the other patients notice that he is worse, whereas if they see you run for screens every one's attention will be drawn to him. We have many days of quiet (some might say "uninteresting") work, and then come rushes of exciting cases and critical operations, and the best nurses are those who can be as calm when assisting at a tracheotomy, or soothing a patient who is terrified by a sudden attack of hæmoptysis, as when they are feeding the babies or helping an old lady to dress!

A nurse must be CHEERFUL. It is not always easy to be cheerful; perhaps you are not feeling very well, or are worried about things at home, or have done badly in your last examination; but we must remember the patients have plenty to bear, and it is our duty to make things as cheerful as we can for them and certainly not to let them be depressed by our personal worries. Try to take an interest in what interests them: with a woman as to who is taking care of her baby, etc., with a man as to whether he is on a club, or how his family can manage without his earnings.

A nurse must be PLEASANT AND COURTEOUS. The good name of a hospital amongst the general public often depends much more upon the courteousness of the porter who opens the door, and the manner of the nurses to visitors or to the

patients' friends, than upon the way the committee, the staff, or the matron receive visitors of a higher rank. If visitors come to a ward go at once and ask if you can do anything for them, or if they want to find some one; it is, perhaps, their first visit to a hospital and they are afraid of what they may encounter if they venture in alone. If a new patient walks in, *don't* say, "You can wait there till I am ready to attend to you," it will take you no longer to say, "Come and have a chair by the fire while I get your bed ready for you," and it will make him feel more at home. To you he may be "only another chronic case," but perhaps to him coming into hospital seems the most important step in life he has ever taken. A mother brings in her child or a woman her husband, she may have been nursing him day and night at home, and now she has to hand him over to a complete stranger; she will have much more confidence in doing so if you seem to take an interest in the history of his illness, and what has been done for him at home, and there is no need for you to feel hurt if she says, "You *will* be kind to him, won't you?" We have many unpleasant duties to perform, and only with time can we learn to perform them without showing in the least that they are unpleasant to us. This is another thing to be cultivated; try to remember that having them performed for them is also unpleasant to the patient, and strive to make them as little unpleasant as possible.

A nurse must be Spotlessly Clean. It is hardly necessary to say much about this, but in a hospital it is most essential both for the sake of the nurse and of the patient. A daily bath is almost a necessity where we have to be so constantly on our feet. The hair requires washing more often in a hospital than at home. Most scrupulous cleanliness of hands and nails is also necessary if we wish to be

a help and not a hindrance to the doctors, especially in the surgical wards (we will speak more of this when we speak of dressings and operations). One thing I would remind you of for the patient's comfort—be very careful thoroughly to wash your hands after attending to bed-pans or expectoration-mugs before giving a feed or doing anything else for a patient, and *never* go to a meal without first carefully washing your hands.

A nurse must be PATIENT. Very few people who have never had to do with sick people, and especially with sick children, can realise how much patience is required in dealing with them. In hospital work, as a rule, the children do not need much persuading to take their food (though they may crave for a sausage instead of their milk pudding !), but private nurses going amongst the "better fed" classes will need much patience in this particular; and in hospital work to persuade a sick child to take a dose of nasty medicine often calls for much exercise of time and patience. The wandering or delirious patient who repeatedly pulls off his dressing as soon as you have applied it;—the old man with the fractured femur who persists in taking off his splints when you know it is of the utmost importance for him to keep them on;—the old woman who calls you three times in ten minutes (when you are busy with a bad case) to find her handkerchief —all present opportunities for you to practise the virtue of patience.

A nurse must be NEAT. An untidy nurse spoils the look of the most tidy ward; she must be neat in her dress and neat in the dressing of her hair; she must also be neat in her bed-room or she brings trouble upon the housemaid. Ward neatness can only be learnt in time; very few new probationers will notice the crooked quilt, the untidy locker, the crumbs by a child's cot or the orange peel thrown in the

fender, that quite spoils the smart appearance of a ward in the eyes of a good nurse. The new probationer must not get cross when she is repeatedly told things are untidy, but she must try to cultivate the habit of observing for herself and not needing to be told. Never spill a little milk or water and neglect to wipe it up immediately, but if you happen to be asked by a senior to clear up the litter some one else has made, try to avoid saying (or showing that you are thinking) "It isn't my work"—that is an expression that should never be heard in a hospital; it is the work of all of us to "tend the sick as directed by the doctors," and no work that is done with this object in view is degrading.

A nurse must be OBSERVANT. Some people are naturally much more observant than others, but this is also a quality which can be acquired with time and patience. A doctor cannot be always with his patient, and a nurse can be of the greatest help to him if she intelligently observes while he is away. With children this is especially important, as they cannot describe their pains or even tell you where they feel a pain. Learn to observe your patients when they are awake and when they are asleep; in what positions they are the most comfortable, how they take their food, how much they sleep, and so on. The different tones of a child's cry go a long way towards diagnosing his case when heard by an experienced ear.

A nurse must be PUNCTUAL. I have left this to the last, but I really think it is one of the most important qualities of a good nurse. Medicines and stimulants upon which life may depend are entrusted to you to give, and must be administered carefully and punctually. Most of the patients under your charge will be too ill to take three meals a day, and think no further about their food. Food must be brought to them at the right times and nicely served; if this

is not done punctually most of your patients will suffer in temper and some of them will suffer in health. Poultices must be changed at the right time, ice bags and steam kettles must be filled at the right time; in the great machinery of the daily work of a hospital if one little cog-wheel does not keep correct time the whole machine is thrown out of order and is no credit to the engineer. Nurses must be punctual coming on duty and going off duty, in attending meals, and in putting out their lights at night; rules with regard to these duties are all made with a view to the health and comfort of the nurses, and I always find nurses who are unpunctual in these things are unpunctual in the wards as well.

The Distinction between the Work of Doctors and Nurses.—Most of you have attended lectures on elementary anatomy and physiology, and I think you must have learnt enough to realise how impossible it is for us, in the time we have at our disposal, to thoroughly go into anything beyond the very rudiments of these subjects.

It takes a man (or a woman) who has had a good education at least five years' study before they can possibly become qualified as a doctor. I suppose we have all made up our minds that, for the present at any rate, we do not wish to be lady doctors but nurses, so let us try to see where the distinction lies.

It is the work of the doctor to diagnose the case and to prescribe the course of treatment he wishes to have carried out; when the doctor has prescribed, then the work of the nurse comes in, and she is expected intelligently to carry out his treatment—never to criticise it and say (or think), "Doctor so and so would have ordered something different," but loyally to carry out the treatment ordered.

You will find most doctors quite appreciate the advantage of having trained nurses in charge of their cases, and the longer you work for them and the more they learn that they can trust and depend upon you, the more they will leave in your hands. Some patients think they are paying a nurse a great compliment if they say, "She is really nearly as good as a doctor," but we should all aim at being first-rate nurses rather than third-rate doctors.

Hospital Etiquette.—This must necessarily be so different in large and small hospitals it is difficult to give many definite rules.

All physicians and surgeons on the visiting staff must be addressed as "Sir"; it is a distinction due to them when they are appointed members of the staff and quite distinct from any considerations of social rank. In some hospitals the resident medical officers are also addressed as "Sir". No nurse should remain seated while a doctor or matron is going round the ward, or while receiving instructions from any superior. In small hospitals, where the matron is constantly in and out of the wards, she may prefer to go round alone and talk to the patients, but in a large hospital where the matron can only go round once a day, she expects the sister or the senior nurse on duty to go round with her, and if she notices anything out of order she will then be able to draw the sister's attention to it. The nurses must use every endeavour to keep the wards perfectly quiet while the physicians or surgeons are going round, and especially when they are listening to a patient's chest; it is impossible for them to distinguish the delicate sounds while a child is crying or a man is folding up his newspaper. Most of these principles are quite understood by all of you, but they are details that fellow-workers can so easily tell to new-comers and save them from having to be officially told.

With regard to the Care of your own Health.—Though I do not consider that probationers, as a rule, are as hard worked as they were a few years ago, still it is more than probable that very few of you have worked so hard in your life before. To keep in good health you must, if possible, go out of doors for a short time daily; you probably often think you are too tired to dress when you first go off duty, but if you braced yourself to go out even for twenty minutes directly you get off duty you would have time to come back and have a good rest before going on duty again.

Many probationers suffer a great deal with their feet at first; the daily bath (I have already told you is almost a necessity) will help to keep the feet in good order, and if they are tender, soaking them in alum water or permanganate of potash (Condy's Fluid) helps to strengthen them. You will find it a great help to change to different shoes at least once in the course of the day. Continued aching of the feet should be reported, as, if disregarded, it may go on to flat foot trouble and be difficult to cure. *Always* report any sore throats or sore fingers; they can generally be cured so easily if taken in time and are so dangerous if neglected. A scratch that you would take no notice of at home does not heal up "on its own account" in hospital amongst a lot of sick people; any cut or scratch should be at once soaked in some strong disinfectant and then be kept covered up till a sound skin has grown. Remember there is no glory in going on working when you are ill because "you didn't like to give in"; it generally means that eventually you are off duty much longer and cause far more trouble by having to be nursed and your place filled—in any case it is better to let the matron (or perhaps the doctor) decide whether you are fit for duty or not, instead of trying to diagnose your own case.

To pass on,—if you wish to be good nurses you must never

be satisfied till you have done everything you possibly can for your patient's comfort. No nurse can do good work if she is constantly watching the clock for her off-duty time to arrive, and in her anxiety to get away probably leaves some little attention to a patient undone. A patient who is very ill may ask you not to make his bed or do some other service for him until sister (or some other particular nurse) comes—don't be offended; he is weak and ill, and he has found out which nurse is most skilful in avoiding giving him pain; but don't be satisfied with yourself as a nurse until *you* are the particular nurse that patients prefer to have to help them in their weakness.

A wise man once said (I only quote from memory):—

"The sick man who lies in bed all day, with his system out of order and perhaps in pain *without being peevish*, exercises more self-control every hour of the day than a man with a sound constitution can ever understand; every heavy step that shakes the room, every loud noise, every bright light that is flashed in his eyes, every impatient word spoken to him, causes him more pain than any one who has never been very ill can possibly understand or appreciate."

CHAPTER II.

Ward ventilation—General ward work and cleaning—The care of blankets, linen, mackintoshes, etc.—Beds and bed-making—Stretchering helpless patients.

Ward ventilation is always a difficult problem, as very few patients will look grateful if you open a window, and yet fresh air is of quite as much importance to them as many bottles of medicine; they are not accustomed to fresh air and they are honestly afraid of it.

A thermometer is necessary in every ward, and you should learn to refer to it constantly, as, when you are always in the ward, you cannot notice at once when it becomes too hot or too cold, whereas some one coming in fresh would say at once "How stuffy this ward is".

Most doctors consider 60° to 64° the best temperature for medical wards and about 56° to 60° for surgical wards; a few years ago much higher temperatures were considered advisable. Patients must never be allowed to close the windows without leave; let them clearly understand that you have to regulate the fresh air according to doctor's orders.

Always close windows beside a patient who is being washed, or having a wound dressed, or being examined by the doctor; but don't forget to open them again afterwards. A brightly burning fire is an excellent ventilator. It is a good plan when you want to open several windows in the early morning in order to air the ward, to warn your patients to

lie down and draw up the bed-clothes for half an hour or so, and they will take no harm from the airing.

Patients and nurses are far more likely to get sore throats and septic wounds in a ward that is badly ventilated than to take cold in a well-ventilated ward; but you must remember that patients who have been accustomed to living in small and airless rooms are more likely to take cold in a draught than we who are accustomed to living in plenty of fresh air, so they must be warmly clad and, if necessary, protected by screens.

Ward Work.—Many probationers when they first come to a hospital expect to be immediately set to nurse acute cases or to assist in the theatre; out of consideration for the patient's comfort and well-being we are not able to allow them to do this; instead, they find that the greater part of the day is spent in sweeping, dusting, cutting up bread and butter, etc.; all these occupations are very useful, and if well done bring credit to the ward; and the new probationer who, whilst doing them, keeps her eyes open to observe how the senior nurses are doing more complicated things for the patients will soon become a useful member of the hospital staff.

The wards must be swept once a day in every corner, the beds and lockers being pulled out to sweep behind them (unless the beds are occupied by patients who cannot even bear that amount of movement), and it is best for the chief sweeping of the day to take place after the beds have been made in the morning; it will be necessary to sweep lightly round the beds again after dinner, and again after the evening bed-making.

Some of the windows must be open while you sweep and dust, but don't sweep with so much draught that most of the dust is blown back into the ward. It is a good plan to sweep

a long ward from one end to the middle, and then start at the other end and again sweep to the middle, instead of carrying the dust the whole length of the ward. See that your broom is clean, and wash it at least once a week, hanging it up till it is quite dry.

Most modern hospitals are now built with rounded corners, as they are easier to sweep and clean. The walls, blinds and pictures must be swept down with a long brush at least once a week. For hospital dusting it is best to have your duster slightly damp, and you will then be less likely to flick the dust off one place only to allow it to settle elsewhere. Remember that everything movable should be moved when you dust it; this is not so difficult in a hospital as in a private house, as we try to keep free from too many ornaments, etc., and also from anything that creates a harbour for dust. To some people it seems to come by instinct to be good cleaners; it did not do so with me, and I can still remember how, when I had only been two days in hospital, the matron—a very tall woman—was going round my side of the ward and drew her finger along the top of a picture-frame and the top of a window sash (both well out of my reach from the floor), and I was despatched for a basin for her to wash her hands in afterwards; I remember the sister put in a good word for me about being quick over my work, but I was considerably slower over it next day! As a matter of fact you will soon learn the places where dust collects—remember the tops of screens, the iron bedstead (especially behind the pillows and under the edges of the quilt), the bed top put up over the bed of a bronchitis case,—the latter must be occasionally taken down and shaken outside the ward. In many houses cupboards are great places for collecting dust, but in hospital it is so important that no dust should be allowed to collect anywhere that we put every cupboard

and drawer under the charge of some particular nurse, and she should take a pride in keeping them so clean that at any time we can open them and find everything in perfect order.

Bed-pans, urinals and expectoration-mugs must be kept most scrupulously clean. Washing frequently with very hot water and a little soda and then rinsing them in carbolic lotion or lysol is the best plan. In some hospitals it is possible to boil the urinals and expectoration-mugs, and that is a great help; where you cannot do this, it is useful to have an extra supply of urinals and to keep the spare ones standing with some disinfectant in them using them, in turn.

Cleaning brasses.—There are few things that contribute so much to the smart appearance of a ward as well-kept brasses. Any brasses that have been neglected will polish up much easier if they are first washed with hot water and a little soda; for the ordinary polishing you are provided with polishing paste, and you will find it an excellent plan to use the lid of the tin as a saucer and put in it a little methylated spirit, dipping your rag first into the methylated spirit and then into the paste: the probationer who uses very little paste and a great deal of what is commonly called "elbow grease" will always be the most successful with brasses.

Bed and dressing mackintoshes (the care of).—These are expensive things to buy and if not taken care of they are very soon ruined, so they should be treated with care. After a mackintosh has been used for a dressing it should be immediately disinfected by being washed over with carbolic lotion, 1 in 20, or lysol, before it is hung up to dry, or used for another dressing; besides this, all mackintoshes must be thoroughly scrubbed once a week. This is best done on a table (or a large board laid across the top of the bath)

covered with an old, but perfectly clean sheet; use warm water (cold does not clean well and hot spoils the mackintosh) and soft soap; if there are any stains or discoloration add a little ammonia to your water.

All mackintoshes used in the theatre or for a bad dressing in the wards should be placed, immediately after use, in a tub of cold water (if you are not able to scrub them at once) instead of allowing them to dry with the stains on them.

Blankets and bed-linen (the care of).—To provide sufficient linen, etc., for a hospital where patients require such constant changing is a serious expense and so is the necessary washing of the linen; careful nurses can make a great difference in these items. If a patient is going out in the morning don't put him on clean sheets the night before, even if it is "clean sheet night". Try to keep your oldest blankets all together in one place, so that you can at once lay your hands on them when a case of skin disease comes in, or any case which it will be necessary to have all the blankets washed after; old blankets should also be used for any patients who are obliged to have blankets placed next to them, but remember all these blankets will have to be washed, so do not place blankets next to your patients unless really necessary. Patients who have had an operation must have hot blankets to help them to get over the shock, but as soon as they have recovered from the shock they can return to the ordinary way of having their beds made. Ragged linen on the beds, shirts or jackets with no buttons on them, are a disgrace to any ward; the mending must be regularly done as the linen returns from the wash (not as you take it out to put on the beds); if the things are too old to be mended they can always be changed if they are taken

to the office at the appointed times. The moral effect on the patients of seeing the way we insist upon everything being kept clean in hospital, and that no raggedness or untidiness is tolerated in any way, often has a lasting effect which they carry home with them.

Beds and bed-making.—The choice of the bed for a sick person does not often rest with the nurse, but it is a good thing for you to know what are considered to be the best beds, and why. Feather beds are, mercifully, going out of fashion so fast that they are not likely to afflict you very much; I need hardly point out to you how unsuitable they are for patients who have to remain long in bed.

In modern hospitals the beds are placed with a window on each side for the sake of free ventilation, and they should on no account be placed with one side against a wall. Except for fracture cases and a few others (where absolute rigidity is required) beds with a wire spring mattress and a hair mattress on the top are considered best. The make of bed most popular in hospitals is that called the "Lawson Tait" bed. Hospital beds should always be higher than ordinary beds; it is a great saving to the nurses in not having to stoop so much over their patients and it is also more convenient for the doctors when examining a patient; the beds should, also, not be too wide. Beds with high foot pieces are most unsuited for hospitals; in bandaging a leg it is frequently necessary to stand at the foot of the bed, and also if you require to stretcher a patient on to a bed or off it, it is best done over the foot. The head-pieces of hospital beds should be easily removable, so that anæsthetics can be given on the bed if necessary; and it is also useful if artificial respiration has to be tried to be able to take off the head-piece. With regard to the position of the bed selected for any special case it is not possible in a hospital to have much

choice, but we always try to keep a warm bed near the fire for any cases of burns, chest cases, cases of rheumatism or Bright's Disease. Cases of head injuries or diseases of the brain or eye are best in some quiet shady corner, and any cases that are likely to be delirious must be placed where they can be constantly watched while you go about your ordinary work. Where it is possible to provide *bed-curtains* they are a great comfort both to the patients and nurses. They are generally hung on a circular iron rod over the bed and should be sufficiently wide to draw around the patient and his locker, so that a small private enclosure can be made for the patient to wash himself in in the morning. It is then, when giving round bed-pans, only necessary to draw the curtains to, and it saves much carrying of screens, etc. Another advantage of the bed-curtains is that the rod forms a most convenient support for a bed-top, and, together with the curtains, does away with the necessity for more than one screen when you have to make a tent for a steam kettle. Of course the curtains must be of washing material and sent to the laundry at least once a fortnight.

In most hospitals when a patient dies, or when an infectious case or a septic case (by a septic case I don't mean only a case of erysipelas or cellulitis, but any case in which there has been a discharge of pus) goes out, the mattress is at once sent to be baked in the disinfector. Where there is no disinfector you must do your best to thoroughly air the mattress; and remember that the sun, if given sufficient time, is a first-rate disinfector, but in England it is not safe to depend upon the appearance of the sun; and sometimes it is possible to carefully seal up a small room and burn sulphur or formalin to disinfect the mattress; in any case *never* make up a bed for a new patient directly an old one goes out without carefully considering whether the last was a perfectly clean case.

The bedstead must be thoroughly washed with carbolic lotion, 1 in 20, or with lysol, between each case, whether it was a septic one or not; if you are nursing typhoid fever or any infectious case in the general wards, it is a good plan to wash round the iron-work of the bed with some disinfectant every day.

In hospitals we try to protect our mattresses (which are expensive things to replace) with mackintoshes, and these must always be put in children's beds, accident beds, beds for cases subject to fits and all beds for operation cases, etc., in fact they should be used for all cases when they are first admitted, but do not leave mackintoshes in beds when they are no longer required, they are not particularly comfortable things to sleep upon; as a rule as soon as a patient is well enough to be getting up he can dispense with his mackintosh (but *not* with the draw-sheet). With regard to the *bed-clothes*, the main object to be kept in view is that they must be warm but light; heavy bed-clothes are most weakening for the patient and quite sufficient to keep a sick man (who, perhaps, is too ill to tell you what is the matter —or indeed to know himself) awake all night. White quilts always look nice in a ward, but, unfortunately, as a rule, white quilts are heavy; there are, however, exceptions, and the ones I like best are made of a kind of honey-comb material, they are more porous than the usual white ones, and are both warm and light. At one time red blankets were very generally used in hospitals (instead of quilts) as it was supposed that they kept the fleas away. I am afraid that experience does not uphold this theory, and they are not suitable as an outside covering for the beds as they catch a great deal of dust, and, unless washed very frequently, must be a happy hunting-ground for the germs who love to find an unwashed surface where they can lie in wait to

pounce upon any unprotected open wounds at their first opportunity.

Many patients (and some nurses !) think that bed-making takes place much too frequently in hospital ; but when you think how very important a part "rest" plays in the treatment of disease, and how impossible it is to secure comfortable rest on a bed that is in the least degree uncomfortable, you will see that it is a thing worth your very careful consideration. A few days' experience in bed-making with a good nurse will help you more than many lectures, but there are a few things one ought to say on the subject. Every patient who can possibly do so should be allowed to sit out while his bed is made at least once a day. I think, as a rule, it is better for the chief bed-making of the day to take place in the evening ; the ward is generally warmer then and there are more nurses to assist ; no thought of its "taking less time" should induce you to make the bed with the patient in it if he can possibly get out ; but of course you must be sure to ask the sister which cases may or may not get out of bed. Be careful to wrap the patient up well in his top blanket and do not leave his feet on the cold floor ; have the windows closed just beside the bed you are making ; because it will only take you a few minutes to make the bed is no reason why you should allow your patient to get chilled. If it is bad for him to hang his legs down, have two chairs ready before you begin to get him out of bed. Allow *nothing* to be kept under the pillows except a handkerchief ; in some hospitals a small wire basket is hung on the head of the bed for the handkerchief, and this is a nice, clean plan. Arranging pillows comfortably to suit each individual patient is an art which can *only* be learnt at the bedside ; remember that feather pillows are of very little use for support, so that (if possible) only one should be placed

under the patient's head and flock pillows used for propping him up.

In shaking the pillows of a patient who is very ill, be careful to stand clear of his bed, as, if you lean against his bed, you will shake the patient as well as his pillows, and this is not at all desirable. When it has been necessary to prop a patient up with numerous pillows (on account of his difficulty in breathing or for some surgical reason) and he is recovering and able to lie down with comfort, it is best to gradually remove his pillows; if you leave them with him until you become short of pillows, and then hastily take them away, he will probably feel aggrieved, whereas if you remove them one by one, telling him he will be more comfortable without them, he will be quite contented. Try to have your quilts all hanging the same length over the end of the beds, and the same amount of sheet turned down over the quilt on each bed; in a long ward this makes a great difference to the smart appearance. It is very difficult to air the beds sufficiently each day, because as soon as a patient gets up his bed has to be made or the tidiness of the ward (after which we are always striving) is lost.

It is best to have settled times at which patients must get up, and not allow them to leave their beds at other hours. The most suitable times appear to be—before 9 A.M. (for those well enough to be up all day), between 12 and 1 P.M. (for those who are well enough to get dressed), and between 4 and 5 P.M. (for those who only get up in dressing-gowns for a short time); then at these particular hours the nurses are ready to make the beds. If you cannot air them for long you can at least pull off the clothes (each one separately) of the two or three patients who have got up, and leave them hanging over a chair while you make these beds. This will give them just a little airing; and when you remember that

a man throws off in perspiration about a pint of fluid in every twenty-four hours, you will realise that the bedding requires some airing daily. In the Army it is the rule that when a man is marked "up" he has to roll up each sheet and blanket in a neat pattern at the foot of his bed, and the mattress is also rolled up; this ensures that the bedding is all shaken out twice a day and also that the bedstead is dusted and fit for inspection, but it has a curious effect on the appearance of the ward until you get used to it. *Never* go round making the beds of patients in bed without a chair to throw the clothes over; you may be able to make them fairly comfortable by only turning the clothes back to the foot of the bed, but it is a slovenly way of doing things.

Water-beds.—I once heard a very good doctor speak of water-beds as "the resource of bad nurses," and since then I have seldom put them under a patient of mine unless absolutely necessary, and even then have felt just a little ashamed at not having been able to do without them; but certainly there are some cases that require them, especially those that cannot be easily turned on their side while their back is attended to. It is extremely difficult to place a water-bed under a patient, and if one becomes necessary it is better to make up a fresh bed and stretcher the patient on to it. The water-bed should be placed on the mattress and then filled (with the help of a jug and funnel) with warm water so that there is no feeling of chill to the patient. A water-bed that is too full is most uncomfortable, and one that is not full enough is quite useless; if you place your open hand in the middle and press down you should be able to get to within about an inch of the under surface; if you can *reach* the under surface it is not full enough, as the patient's back would also probably reach it. You will

notice I have said the water-bed should be next to the mattress; many nurses think it sufficient to place it on the sheet (if it is a small water-bed) with a mackintosh and draw-sheet over it—of course no one who thinks at all would put it next to the patient; but if you place it on the sheet the changing of the under sheet becomes a difficult matter both for the patient and nurse, and as water-beds would probably only be used for cases likely to be in for a long time it will certainly be necessary to change the under sheet occasionally. Water-beds are very expensive and must be treated with care; when finished with they should be carefully drained and then scrubbed in the same way that you scrub mackintoshes (a little ammonia in the water if necessary). There is no reason why water-beds should not look white and "as good as new" after some years of service if they are properly taken care of and protected.

Stretchering Helpless Patients.—When you are told that patients must not sit out of bed do not at once condemn them to have their sheets rolled in and never to have the mattress turned; they *may* have to be reduced to this, but there are very few patients who cannot be lifted out on to a stretcher at least once a week. To do this for a helpless patient it is necessary to have four assistants (six is better still)—I say assistants because strong convalescents can quite well help if directed by experienced nurses; but of course you would never ask a patient with a weak heart or anything of that kind to help lifting. The stretcher is placed at the foot of the bed; lay aside your white quilt to preserve it, but turn the top blankets down on to the stretcher to make it soft for the man to lie on; then remove all the pillows, and let the four (or six) assistants grasp the under sheet with their arms extended; lift all together very gently,

keeping the sheet taut and flat, till the patient is high enough to go over the foot piece of the bed without touching, then walk down till he is over the stretcher and gently lower him on to it; give his mattress a good shake, turning it from top to bottom, and have his bed smoothly and comfortably made before lifting him back in exactly the same way, afterwards rolling out the soiled sheet that you have lifted him on. If this is correctly done, it should be accomplished without exhausting the patient at all; and the night nurse will tell you that the night when most of her patients sleep quietly and give her little trouble is "stretcher night". There are a few cases that it is better *not* to lift out of bed—operation cases for the first week or so after an operation, etc., and yet it may be necessary to change their sheets. You will very soon learn by the bed side how easy it is to do this by placing your patient on his side and rolling in the clean sheet —at the same time as you roll out the soiled one—without exhausting the patient at all; and this is the plan that must be adopted in private houses; one nurse *can* manage this, but two can manage it far better. I think nurses are rather apt to forget that in some cases it is much better to roll the sheet in from the top of the bed to the bottom, instead of from side to side; as a rule this is the best plan to adopt for any case of injury to the lower limbs where turning on the side is painful to the patient.

CHAPTER III.

The washing of patients—Care of patient's clothes and valuables—The prevention of bed-sores—Rest, bodily and mental.

When new patients come in the most apparent necessity is an immediate bath, but the nurse must first consider whether they are well enough to bear this. To help her to decide this point it is the rule in hospital to take the patient's pulse and temperature first.

As a rule patients with a high temperature had better be bathed in bed, also any patients with difficulty in breathing, and any patients with heart disease. A patient who comes in suffering from severe shock will probably have a very low temperature, but whatever his temperature it is best not to wash him until he has been in bed with hot bottles and hot blankets for some hours; this refers especially to any cases of burns or scalds, and any cases of abdominal injury, or injury to the ribs and chest; these cases sometimes walk into hospital and do not look particularly ill, but may very rapidly become worse, and it is better to watch them carefully for a time before you move them about in washing them.

If a patient comes in with a crushed or broken leg or arm it is best to try and get that particular limb cleaned up before the doctor arrives, even if you cannot wash the patient completely, as it will probably be put on to splints and then will be very difficult to clean.

A hospital patient is never allowed to bath himself alone,

whether he be a new patient or a convalescent; there have been cases of patients who have fainted or had a fit in a bath, and it must never be risked in a hospital; sometimes there is a convalescent man who can take a male patient to the bath-room (and they should not be allowed to fasten the door); if there is no one up who can do this the patient must be washed in bed. The nurse under whose charge the patient will afterwards be must always see the bath prepared and test the water with a bath thermometer; a temperature of 98° to 100° is best for washing purposes (we are not speaking of baths used under a physician's orders). Never place a child in a bath that is hot enough to make it cry; it is more wholesome to have the water fairly cool, and you must remember the child's skin is thinner than yours. When preparing a bath for a patient the nurse must also see that he has towels, a clean shirt ready to put on and dressing-gown and slippers, and he must not be allowed to stand about and get chilled after a hot bath. Her duties are not complete even when the patient has returned to his clean bed; the feet and hands must be examined, nails cut, etc., and then the head must have a thorough overhaul. Presuming that it has been washed in the bath, the next step is to carefully comb it with a small-tooth comb (if a woman, first combing out the tangles); if it is perfectly clean, well and good, a weekly combing with the small comb to ensure that it keeps so will be all that is necessary; should you find it is *not* clean be sure and report the fact to the sister. I think the best thing is to comb it well with equal parts of carbolic lotion, 1 in 20, and methylated spirit (the latter loosens the nits, which are the most troublesome to get rid of). If the head is very dirty it should be completely covered with a piece of lint wrung out in carbolic lotion, 1 in 40, covered with jaconette and bandaged on; this should be

left on all night and replaced after the *daily* combing, which is essential until the head is quite clean. Some nurses use lint wrung out in chloroform instead of in carbolic lotion, and this is very effective, but rather extravagant and also a little bit dangerous. You must not depend upon the capeline to cure the disease, it is the daily combing that will do that, but it will help towards it and it will prevent the creatures from roaming about the bed and possibly attacking other patients.

No nurse of any experience will excuse a patient from his bath on admission because he says he "only had a bath yesterday," neither will she allow him to go to bed in the shirt he came in in, because it was "clean from the wash yesterday". If you tell them it is the rule of the hospital for them to be washed all over it will break them in to the idea that there are certain rules which both patients and nurses must obey; also the first wash over gives you an opportunity to notice the physical condition of the patient; and the nurse who admits a patient is, of course, expected to report anything unusual about his condition,—the presence of a rash, of an ulcer, of varicose veins, of a stiff joint, or a hernia; any of these things may be found with a patient who has come in for something quite different, and I consider it a serious disgrace for any of them to be first discovered by a doctor, instead of being reported to him by the sister, who should be fully informed of anything abnormal.

So far I have been speaking more of patients who are well enough to be bathed; we will turn now to those who have to be washed in bed. To be washed at all by another person is not at all pleasant, so make it as little unpleasant as you possibly can; always have a washing blanket over the patient and do not uncover more than you need at a time; it is not necessary to have a man's whole chest and

arms uncovered while you wash his face and neck; and always dry one part thoroughly before you go on to wash the next. It is well to cut the finger and toe nails before you take away your washing basin, as a polish up afterwards is often advisable.

Turpentine is a great help in cleaning dirty feet, and also for men who come in from working amongst machinery with greasy black upon them. Do not be too severe with your patients for their want of cleanliness; remember that the hot and cold baths we enjoy are impossible luxuries to them; that many of them live in crowded rooms where, if there is one basin for all the family to wash in, that is all they are likely to have, and that the water-tap outside is very often their only resource. There are other reasons, too, which may be brought forward by helpless ones living alone, and I always remember one old and *very* stout lady of seventy, who was brought in as a case of strangulated hernia, and who was profuse in apologising for her *very* dirty feet, finishing up her apologies by saying, "but there, you see, my dear, I haven't been able to reach down to them for the last twenty years!" Presuming that you have got your patient fairly clean on admission, we pass on to the daily washing; this, as a rule, is superintended by the night nurse, and she must hold herself responsible that it is properly done.

Most patients, at first, have a strong idea that soap and water is harmful to sick people and especially for those suffering from their particular disease; a tactful nurse will soon get over this prejudice.

In most books on nursing you will find the rule laid down that patients should be washed *all over* once a day; this is certainly the right thing, but it is difficult to manage in hospital, and a large proportion of the cases must (for the

present) be contented with a daily wash down to the waist and a wash all over once or twice a week.

A comfortable wash over is a most refreshing thing to a sick man, but it should be done so comfortably as to be a refreshment and not a tiring process. Many patients who have been restless all night will settle down after their morning wash to a good sleep, and when you know a patient does this it is sometimes well to wash him very early in the morning (say between three and five) so as to give him time for a quiet sleep before the bustle of the day begins; but of course you would never rouse a patient to be washed before breakfast.

There is one thing that I hope you will never do (but I *have* seen it done even by fairly good nurses) and that is the washing of two or more little children in the same water; nobody would do it with adult patients, so why they should inflict little children I cannot see; in hospital, where so many of the children have a taint of specific disease, to do a thing like that entails a grave risk to a healthy child and should be treated as a grave offence on the part of the nurse. There are some cases that it is necessary to wash all over once or even twice a day; typhoid fever is one of these, but we will speak of these special cases later on.

All patients should be encouraged to wash their faces and hands at night; it helps the very sick ones to settle down to sleep, and it is good for the clean sheets of those who are up and about, putting coal on the fire, etc.; of course the latter should wash in the lavatory before going to bed. Patients who are up a good deal will also require their feet washed more frequently, and if they are well enough to be walking about a good deal they are generally able to do this for themselves (but they will not do it unless they are told to), and the nurse to whose bed the patient belongs must

hold herself responsible that her patients are fit for inspection from top to toe by the doctor on any day and at any hour.

The care of the teeth is another thing that very soon shows whether the nurse in charge is careful and observant. In some diseases, generally where there is a high temperature, the teeth soon become very furred. Some doctors order a mouth wash, but I think if nurses always used a little glycerine and borax (a little lemon juice is a pleasant addition) and kept the teeth well cleaned with lint on a pair of forceps, they would seldom become bad enough for a doctor to have to prescribe, and if I were the nurse I should consider it rather a disgrace for a doctor to have to interfere in such an essentially nursing point.

Patient's clothes (the care of).—When a new patient comes in it is often best to get the friends to take home his clothes and bring him "clean things" when he is ready to get up again; but sometimes he has no friends who can take them, or you may have reason to think that they may vanish to the pawn-shop if you allow them to go; then you must examine them and see whether they are fit to put away with other patients' clothes or whether they should first be sent to the disinfector to be baked. Remember if you have to send them to be disinfected to see that there are no papers in the pockets (old soldier's discharge papers, club books, etc.), and also that there are no matches, which would probably ignite with the heat; it is not necessary to send boots or leather belts to be baked, and leather spoils in the process. *Never* put clothes away in the clothes cupboard till they have been properly labelled, remembering the boots, hat and stick. Many surgical cases on admission need not remain in bed until their operation is performed, and it is better to keep

their clothes so that they may be up instead of lying in bed meditating about their coming troubles.

The nurse who has charge of the patient's clothes cupboard must wash the shelves with some strong disinfectant once a week.

When a patient is admitted with money or valuables on him (generally an accident case), always advise him to give them to the sister or matron to lock up for him, and warn him that if he keeps them in his locker he does so at his own risk; you cannot be *quite* sure of the honesty of every patient in the ward, but if you didn't warn him, the hospital might be held responsible for anything he lost; if the patient was unconscious or too ill to be consulted, you would of course give them into safe keeping at once. Always remove a razor if a patient brings one into hospital; they are never allowed to be kept in the lockers.

If you have a case of suicide in, or any one who is the least inclined that way, it is usual to cut up all food for him and only allow him a spoon, but if he is allowed a knife and fork be sure you never remove his plate without being able to account for both knife and fork; and if you have to do a dressing for him be sure that you have your scissors, etc., quite safe when you have finished.

Bed-sores (*the prevention of*).—The danger of the appearance of bed-sores is a constant nightmare to a good nurse who has many helpless patients under her care, and to prevent them a nurse must take steps from the very day the patient comes into hospital.

The chief causes of bed-sores are—a skin enfeebled by disease (that is to say, not properly nourished by the blood); pressure; and damp. The backs of all patients who are in bed all day must be washed at least twice a day. Have a good

lather of soap and use plenty of friction, then don't wash the soap away but thoroughly dry it with a towel; if you use sufficient friction to invigorate the skin this will often be sufficient, but if the skin appears in the least red you must apply *something* else to keep it sound. Nearly every nurse has some application she likes best to use, and you must remember that what suits for one patient may not suit for another, so you must be prepared to try various remedies. As a rule I object to the use of ointments on a sound skin, for two reasons; in the first place, it must clog up the pores of the skin and so not be healthy, and in the second place, it makes some skins soft and tender, and other skins hard and inclined to crack. I prefer to use brandy or methylated spirit, and I add about one part of glycerine to three parts of the spirit (the glycerine keeps the spirit from evaporating too rapidly); so far I have never had a bed-sore with a patient that I have been able to use this with from the first. Pressure (another cause of bed-sores) must be met by relieving pressure; for this purpose water-beds, air-cushions and ring-pads may have to be resorted to, but only use them when you see they will be really necessary. You must keep a sharp look-out for a tendency to bed-sores on all parts upon which there is pressure—and not only on the back; the shoulders, elbows, hips, heels and between the knees are all points that require watching, and I have even seen a bed-sore on the back of a baby's head.

The other common cause of bed-sores, damp, is about the most difficult to guard against in some kinds of cases, especially where there is incontinence of urine and fæces; here the nurse's work is never ending; in just a few cases you can save the bed from getting wet by a well-adjusted bottle, but this is the exception, and the general rule is that you must be constantly changing the draw-sheet, washing and rubbing

the back, etc. ; this may have to be done every hour or oftener, and it is quite a usual thing when you have just finished the patient up comfortably to have to start all over again. In these cases of constant wet it is often advisable to use a little ointment, which acts as protective from wet outside, as that is, perhaps, a greater evil than blocking in the perspiration which I spoke of before. Powder, boracic or zinc, is also of use in these cases.

If, in spite of all your care, a bed-sore should appear, or, what is more likely, a patient comes in with a bed-sore, it must be reported to the doctor ; he will very likely leave you to treat it, but he may like to prescribe himself, and in any case he must be informed, as a bad bed-sore will affect the patient's general health. The treatment of soap and water, friction *all round* and rubbing with spirit, etc., must be still continued to prevent any more skin giving way ; sometimes if only a little bit of skin is rubbed off you can get it to heal by merely putting on a little stimulating ointment (such as zinc or resin) and powdering well ; or you may put on a little spread ointment, cut exactly to the size of the sore and covered by another larger piece of lint or wool and then strapped on, but take care that no strapping is allowed to adhere to the skin near to the sore. If a patient comes in with a large sore it is best cleaned up as you would clean any other foul wound with frequent boracic fomentations, and when you have got it sufficiently clean then go on to ointments as before. For very bad sloughing sores there is nothing that cleanses them so well as a charcoal poultice ; another thing that sometimes succeeds when other things fail is the application of red lotion, a very stimulating application. Bed-sores are such exceedingly difficult things to heal and have such a weakening effect upon the patient that it is worth every endeavour to prevent their occurrence. A

helpless patient should be turned from one side to another at least every two hours when he is awake.

Rest.—This is a most important factor in the cure of disease. The mere fact of being able to lie in bed, being fed and waited upon, is, to many of our patients, so utterly impossible at home that we soon see the good results when in hospital we can put them under these suitable conditions for the cure of disease.

You all know that we also obtain rest for injured limbs by putting them on suitable splints, rest for injured ribs by putting on strapping, etc.; but there is another form of rest that I would like to say a few words about while we are on the subject, and that is *mental rest;* a quiet, contented mind goes a long way towards curing a disease of the body. You will frequently find patients when they first come in with an anxious expression ask whether it isn't time for their feed, or time for their medicine; they have been obliged to do this at home; but if they have a good and punctual nurse in charge they will soon find that it is unnecessary in hospital, and will get well much more rapidly when they find that all the thinking and arranging is done for them.

Patients are so different in their likes and dislikes, and a thing that most patients may take as a matter of course may be most irritating to another patient, and the best nurses are those who adapt themselves best to the different characters of their patients and anticipate their wants.

I well remember once nursing a poor man with a fractured spine; of course he was absolutely helpless hand and foot (a very difficult case to keep free of bed-sores). He was one of the most patient men I have ever met, and I remember how pleased I was—I was quite a junior probationer then —when I took him one of his feeds and he said, "Do you

know, nurse, whenever I *begin* to think I want a drink, I look up and you are coming down the ward with my drink all ready; I can't think how you know before I ask you". There are very few patients who will tell you this (even if they think it), but it is what we must try to do for them—give their mind rest as well as their body.

CHAPTER IV.

The feeding of patients—Rectal feeding—Nasal feeding, etc.

I TOLD you that our washing processes were generally considered by patients to be entirely unnecessary and even harmful; our feeding arrangements on the other hand are seldom despised, and with a large proportion of the cases meal-times are much looked forward to as very interesting events.

The diet of hospital patients has been most carefully considered and also the most suitable times for meals.

It is important that each nurse in a ward should know exactly what diet a patient is on and that he is kept very strictly to the diet ordered.

In some hospitals the patient's friends are not allowed to bring in any food, in other hospitals they are allowed to bring certain things, such as eggs, fruit, jam, etc.; these make a pleasant addition to the diet, but they entail great watchfulness on the part of the nurses during visiting hours, or they will probably find a convalescent enteric munching a hard biscuit, or a child with gastritis enjoying a green apple!

It is especially important that you should always know exactly what an operation case is to have to eat (or rather drink), as a patient who has been able to eat a large plate of meat and potatoes before his operation might easily be killed by eating solid food shortly afterwards.

When patients are going to have an operation we give no

food for some hours beforehand, and they are also given some aperient medicine one or two nights before; this is partly to prevent vomiting when under the anæsthetic, as, when the patient is unconscious, if he vomits the vomit may flow back into the trachea and choke him; if, by any chance, he has obtained some food shortly before the operation, be sure and report the fact to the doctor, so that he may either postpone the operation or understand the risk.

The ordinary diets in hospital are so arranged that the probationer does not have much choice in what she takes to each patient as his allowance, but she can be a great help if she is careful to remember all her patients' little likes and dislikes—one potato or two, sauce or no sauce, etc.—and tells the sister who is serving the dinners. The food *must* be cleanly and nicely served to each patient, his locker cloth given to him, and the nurse must see that he has all he wants before she leaves him; he may require propping up with pillows, and it is very trying for him to lie and watch his dinner getting cold and not to be able to get it to his mouth.

The bread, water, knives, forks, etc., must be put round before the dinners are served, as the dinners have a long way to come and there are many to serve, so they will be none too hot even when all the preparations are made.

When new patients come in it is always best to get directions before giving them food; as a general rule patients with a high temperature have nothing but milk till the doctor has seen them; any patients with head injuries or abdominal injuries (whatever their temperature) also have nothing but milk; if the abdominal injury is severe, so as to make you think of the possibility of some internal rupture (the pulse will generally be very rapid in these cases even when the temperature is very low) they must have nothing whatever till the doctor sees them; if there is *great* thirst a little ice to

suck may do no harm, but it generally makes them more thirsty afterwards.

Of course with all patients on special feeds you will be given exact orders as to how much to give and how often, etc.

As a rule an adult patient on milk only has three pints in the twenty-four hours; and if he is ill enough to be put on milk only, he is also ill enough to require frequent feeding, so the three pints are generally divided into five-ounce feeds every two hours. There are very few cases—except after recent operations—that are any the worse for having plenty of drink, but it is not well to give them more milk than is ordered for them, so see that they have plenty of water, barley-water or lemon-water. After an amputation when a patient has lost a great deal of blood, he will probably crave for water in large quantities, and it shows that he requires it to replace the fluid he has lost. There are exceptions to what I have said about three pints of milk being sufficient; for example, for phthisical patients, who the doctor tells you to "feed up all you can," four or even five pints of milk might not be too much, if you found they could digest it.

Patients who are weak and ill (even if on full diet) often require milk to sustain them through the long hours of the night, and a hot drink (and even a little bread and butter) will sometimes help a restless patient to settle down to sleep. With regard to feeding during the night always find out whether the patient is to be awakened for his feeds; as a rule it is a pity to disturb him, but there are some patients who would sink from exhaustion if not fed at the regular intervals, and most patients who have confidence in a good nurse can be roused by her just enough to drink their feed without really waking up at all; always remember if you have to rouse a patient for anything, and also need to take his temperature or do his back, etc., that you have

everything ready when you begin, so as to get him settled again as soon as possible.

When you have to give hourly feeds or half hourly feeds, put the exact amount in the feeder and take it to him fresh each time; there is nothing so annoying to a thirsty man (and more so to a little child) than to be told to "leave some for next time".

Some patients tell you when they come in that they cannot take milk, and there are a few people that it does not agree with, but not very many; as a rule hospital patients are not satisfied unless they have a bottle of medicine, and I have heard it recommended that the nurse should put some milk in a medicine bottle, add some lime-water, and administer an ounce every hour, afterwards increasing the dose; but do not forget to put a correct label on the bottle! When patients have been on milk for some time and begin to tire of it, it is well to ask the doctor whether they may have it flavoured with tea, cocoa or coffee; there are very few cases that this would harm if carefully made and strained, and it may save them from "turning against" milk altogether.

I don't think egg flips are as frequently used as they might be in hospitals, and yet they are the most nourishing of light foods, and I have found them of the greatest benefit to patients exhausted by disease (of course presuming them to be on the various ingredients of which they are composed), especially in the early hours of the morning. To make an egg flip whip up an egg and gradually add five or six ounces of milk, half or one ounce of brandy or whisky, a little sugar or a pinch of salt, and some patients very much appreciate a sprinkle of nutmeg.

In any case in which there is vomiting it is better not to give milk alone but to dilute it with water, barley-water,

soda-water or lime-water; if you do this from the first you will often save your patient from being ordered peptonised milk, which is much more easily digested than ordinary milk, but is not so pleasant to take.

Some patients are so easy to feed and others are so faddy; but you must be very patient with a sick man's fads, as he cannot help them, they are part of the disease, and must be treated with intelligent sympathy; absolute cleanliness and "niceness" in serving all food must be an invariable rule. The successful feeding of sick people is quite a fine art and must take time to learn; it is of the *utmost* importance in many diseases, and one could speak for hours on the subject; but I must restrict myself to these few general hints, and urge all nurses to study the subject very carefully and to observe all they can while working in the hospital wards.

Nutrient enemata.—When for any reason (such as vomiting, stricture of the œsophagus, etc.) it becomes impossible to feed a patient in the ordinary way, there are several other ways of introducing nourishment, and we will first consider rectal feeding, as it all depends on the skilful management of this whether the food is retained or not. A few years ago when a nutrient enema was ordered a box of ball syringes (often very dusty and with the rubber peeling off) was produced and we selected one that would contain the amount ordered; but I don't think ball syringes are ever used now, and much the best thing to use is a soft rubber catheter about two or two and a half feet long, attached to a small glass funnel; if you nip the rubber just where it joins the funnel until the catheter is inserted and the funnel full, you will prevent the entrance of air, and the funnel must be steadily refilled as the fluid runs through.

The catheter should be lubricated and passed well up the

rectum, and I always find enemata carefully given in this way are very well retained. A nutrient enema *can* be given with a Higginson's syringe, but it is not a plan to be recommended at all, except in a case of great emergency. You cannot expect the bowel to retain an enema, or to absorb it, if it is loaded with fæces, so it is best to wash it out first with a plain water enema, and if the nutrients have to be continued for any length of time, the bowel must be washed out once a day. With these precautions and using very great care (that the food is injected at the right heat, etc.) a patient may be fed in this way for weeks together, but if the nutrients are carelessly given, or the washing out of the bowel is neglected, it is more than probable that after a few days you will have to report to the doctor that the patient can no longer retain the enemata.

Most patients on rectal feeding only are fed every four hours, and some doctors order nutrient suppositories to be given alternately with the fluid enemata. With regard to the amount given the fashion has changed greatly during the last few years; in most books on nursing you will find two to four ounces recommended, whereas now it has been found that (given as I have described above) much more can be retained, and six to ten ounces are frequently ordered. I know one London surgeon who always orders a pint for each feed, and then his patients are only fed three times in the twenty-four hours, and they do exceedingly well.

Food to be absorbed *via* the bowel must be partly predigested or peptonised. The doctor will order what he wishes given in the enema; the most common things to order are peptonised milk or peptonised beef tea, often with the addition of one or two eggs. Brandy or medicines can also be given with the food. There are many ways of making nutrient enemata. I will just give you one good receipt,—

beat up two eggs (some doctors prefer for you to only use the yolks), add bicarbonate of sodium, gr. xx., and milk, or beef tea, to six ounces; heat to 140° (*not* to boiling point), then add pancreatic solution, one drachm, and a pinch of salt; leave it to stand in a warm place for twenty minutes, then just bring it up to boiling point and inject at a temperature of 100°. It sometimes answers very well to give milk and beef tea mixed, or else to give alternate enemas of milk and beef tea. The quantity for two or three enemas may be made at one time, providing that after you have let it stand you bring it to the boil and then keep it in a cool place—if you do not boil it the digesting process continues and all nourishment vanishes. If brandy or medicine is ordered in a nutrient enema it must be added last thing, omitting sufficient milk or beef tea to leave room for it.

For patients suffering from shock after an operation great benefit is derived from the injection per rectum of half a pint of saline solution (one drachm of salt to one pint of boiled water), sometimes with the addition of one ounce of brandy; or four ounces of hot port wine is sometimes ordered. Another stimulating enema, and one that is often ordered for cases of opium poisoning, is half a pint of strong black coffee.

Nasal feeding.—This is sometimes ordered for unconscious patients who cannot swallow, sometimes for delirious patients who will not swallow, and sometimes for obstinate patients (especially in asylums) who refuse all food, and in all these cases the nasal tube is extremely useful; also in cases of diphtheria where the patient has been "intubated"—that is to say, a tube placed inside the throat instead of from the outside as in tracheotomy; the patient is generally fed at first with the nasal tube. I have known a child very ill

with typhoid fever (who wanted "bread" and absolutely refused to accept any drink) to be fed with a nasal tube for two weeks (he eventually recovered), but patients very seldom hold out for so long without condescending to drink if they are able to do so. It is not an easy thing to give a nasal feed unless you have been shown on a patient, but when you have once been shown it is really very simple. Get ready a soft rubber catheter joined on to a funnel by a piece of rubber tubing, have it in a bowl of hot water, so as to soften the rubber and also warm the tube, a little olive oil or glycerine (the latter is the least disagreeable to taste) to lubricate the tube with. It is much better to have two people to give a nasal feed, but if you should be obliged to give one to a child alone, you will find it a good plan to take a draw-sheet or a roller towel and pin it securely round the child with the arms inside.

When you have thoroughly lubricated the tube, hold it lightly in your right hand and pass it very gently but quickly up the nostril; it should go along the floor of the nose and not straight upwards; no force must be used, and if you hold it lightly it will find the right track for itself; sometimes you will see it coming into the mouth, and you must then quickly draw it back and start all over again. A worse thing that may happen is that it may find its way into the windpipe; if the patient is not very deeply unconscious he will then choke and become blue, but in any case you will know it is in the wrong place if air comes back through the tube; to allow any fluid to flow into the lung instead of into the stomach would be a terrible calamity, so you must be quite satisfied that your tube is in the right position and the patient's breathing undisturbed before you pour any fluid into the funnel; also be careful that no air gets in and that the fluid flows in slowly and steadily. The

quantity ordered varies a great deal, for a child from three to seven ounces at a time, but a man can take as much as a pint at a time, and of course the frequency depends upon the amount.

The food must be given warm. The most usual nourishment to give in this way is milk, beef-tea and beaten-up eggs, and brandy or medicine can be added if required. You must *always* strain it before you begin, as the tube is small, and it is most annoying both for the patient and the nurse if it should get blocked after it has once been placed in position. For a patient who obstinately refuses to drink and so has to be fed in this way, it is sometimes well to add some salt to the feed, as this may make him sufficiently thirsty to be glad to drink in the ordinary way. Sometimes a doctor may order an *œsophageal feed* to be given, and for this you must prepare exactly the same things as for a nasal feed (but a larger tube can be used), and, in addition, a gag and a spatula; quite a useful gag can be made out of a small piece of firewood with lint firmly wrapped round it. For an œsophageal feed you must have two people, as, if the gag is not carefully held in place, the patient might bite off the tube and swallow it. Depress the tongue firmly with the spatula (or with your finger) and pass the tube over the spatula very gently but rapidly. It takes about fifteen inches of tubing to reach the stomach of an adult from the nose or mouth. About the most difficult cases to feed in these ways are patients with diphtheria, as the membrane so often blocks the way, and occasionally if you cannot manage to pass the nasal tube you may be able to pass the œsophageal, and *vice versa*. Some patients who have difficulty in swallowing in the ordinary position can manage better if you place them across the bed with the head hanging down over the side; for a little child it is easy for you

to take it on your lap and let the head hang over your knee backwards; some doctors allow their intubation cases to be fed in this "upside down" fashion in preference to nasal feeding from the first.

There is one other kind of feeding that you may be called upon to carry out, and that is the feeding of a patient upon whom the operation of *gastrostomy* has been performed. This is sometimes done for patients who have a growth, or some other obstruction of the œsophagus, which prevents them from swallowing. After the operation a tube is left in the stomach (through the abdominal wall), and the nurse has to attach a glass funnel to this tube and pour in the nourishment ordered; generally milk, beef-tea, eggs, etc.; but some doctors leave quite a large tube in and gradually get their patients on to thicker foods. I have seen patients taking minced meat and mashed potatoes in this way. On the other hand some doctors now leave *no* tube in after the first few days, but just a small plug (sometimes of gauze), and the nurse passes in a soft catheter, attached to a glass funnel, each time she feeds the patient; this is, I think, the most comfortable way for a patient who is able to go about and it seems to answer very well. If a tube is left in you must invent some form of clip or plug to prevent it from leaking after a feed. Some patients soon learn to feed themselves in this way, and they go home and often live for some time in comfort, whereas the previous agony of slow starvation (from the inability to swallow) had been very great.

CHAPTER V.

The observation of the temperature, the pulse and the respiration—The observation of the motions, the urine, the vomit, and the expectoration.

The temperature.—The correct taking and recording of the temperature, pulse and respiration is a most important part of a nurse's duty, as the doctor depends so much on this record for the line of treatment he will pursue. The ordinary clinical thermometers in use in most hospitals take about five minutes to register correctly; there are other thermometers that register in sixty (and some in thirty) seconds; these are too expensive for ordinary hospital use, but they are very nice and convenient in private work, and if they could be manufactured more cheaply they would prove a great saving of time in the wards.

The normal temperature of a healthy person is about 98·4°. In disease the temperature varies a great deal, and in some diseases it varies very rapidly.

The temperature may be taken either in the mouth, the bulb placed under the tongue and the patient instructed to keep his lips closed; in the axilla, the bulb placed close against the skin and the arm folded across the chest to keep it in position; in the groin, the leg crossed to keep it in position; or in the rectum, in which case the bulb must be lubricated before it is introduced.

In hospitals it is the custom to take the temperature either in the mouth or in the axilla, and, in little babies, in the rectum; if this latter mode causes any redness or irritation of the anus it should be immediately given up and the temperature taken in the groin.

Children and delirious patients must never have the glass put in their mouth; it is better not to put it there for any patients suffering from affections of the mouth or throat; and it is cruel to take it there in any case where there is difficulty in breathing, as to keep the lips closed for four or five minutes may cause much discomfort.

The temperature taken in the mouth or rectum will average about half a degree higher than that taken outside the skin, *viz.*, in the axilla or groin; for this reason the temperature must always be taken in the same place and, as near as possible, at the same time. Most patients' temperatures are the lowest in the early morning and the highest in the afternoon and evening.

It is said that more people die between the hours of 2 and 5 A.M. than at any other time, and it is certainly well at those hours to see that your ward is comfortably warm, that your hot bottles are really hot, and that your feeble patients are stimulated by hot drinks, and stimulants given to those who are on them. In hospital all patients have their temperature taken night and morning, and any one who is very ill, or who has recently had an operation, may be ordered to have it taken every four hours, every two hours, and (in some acute cases, where the treatment depends upon it) every hour.

A sudden rise or fall of temperature is often the first danger signal that all is not going well with the patient, and for this reason should be immediately reported. Children run up high temperatures with very little exciting cause,

so that we do not get so anxious at a few degrees, difference in a child's temperature as we should in that of a man.

After an operation if a patient's temperature goes up very high, it often means that there is some suppuration, and if the wound is dressed and perhaps a stitch taken out *at once*, the fluid may drain away and all may go well; whereas, if the rise of temperature was not noted, and you waited until the fluid forced its way out through the stitches and through the dressings, it would be a much more serious business; on the other hand, after an operation if the temperature suddenly fell very low it might mean there was some internal hæmorrhage going on, and only very prompt assistance from the surgeon would then save the patient's life.

The temperature is spoken of as "sub-normal" when below 97°, as "pyrexial" or "febrile" above 99°, and as "hyperpyrexial" when above 105°. As a rule if the temperature goes up the pulse and respiration also go up, and *vice versa;* but if the temperature suddenly falls and the pulse goes up the condition of the patient is generally very serious indeed; this sometimes occurs in the course of typhoid fever, when there is perforation of the intestine, or when there is internal hæmorrhage going on.

Be careful to shake down the mercury to 95° before taking a temperature, and if you find anything very unusual take it a second time (if possible with another thermometer) before charting.

Never take a temperature in the mouth immediately after the patient has been sucking ice or drinking anything hot, and if possible avoid taking it in the axilla when the patient has poultices round his chest. The thermometer must be dipped in some disinfectant and carefully wiped between taking each temperature,

The pulse.—The correct taking of the pulse is not quite so easy as the temperature taking, and it requires much practice for you to glean much information from it, as it is not only the number of beats per minute, but the character and volume of the pulse that indicate the condition of the heart; it is therefore well for you to practise taking it and learning to distinguish that of a healthy person and a diseased one.

The normal rate is from sixty to eighty beats per minute; it is slower in one form of aortic disease, and in *some* forms of heart disease, and in some diseases (or injuries) to the brain, etc., and it is faster in *most* cases of heart disease, in fevers and where there is great exhaustion. In fevers the pulse is often large and full; in other diseases it may become very small and "thready" and be easily compressible; this generally indicates a serious condition.

FEB 24 1910

The pulse is sometimes "irregular," that is to say the intervals between the beats are not of uniform length; and this must be distinguished from the "intermittent" pulse, where the beats are, as a rule, fairly regular, but an occasional one is missed out.

In some hospitals the doctors are contented if you register the height of the temperature and the number of the pulse rate correctly, but other doctors expect you to be able to describe the volume and the character of the pulse very accurately, and as this can only be done by much practice, it is well for you to practise while you are in hospital and amongst so many people in an abnormal state of health.

Children's pulses, in disease, are frequently much more rapid than those of adults.

The respiration.—In taking the respiration it is well to remember that it can be controlled by the patient, and it is

well (at any rate occasionally) to take it during sleep. Some people place a hand on the abdomen to count the respiration, and you can do it very correctly so. I generally keep my fingers on the pulse and rest the patient's hand across his chest; you can thus count it while he still thinks you are only feeling his pulse. The normal number of respirations per minute should be about eighteen; it is much faster in cases of fever and chest complaints, etc., and it is slower in most diseases or injuries to the brain, and in some poison cases, etc. The character of the respiration is sometimes described as "shallow," when the abdomen moves very little with each inspiration, or as "abdominal," when the abdomen moves a good deal and the chest very little.

There is another alteration from the normal respiration, that which is called "Cheyne-Stokes breathing"; the respiration ceases for a time, perhaps for from ten to twenty seconds, and then begins again, at first rapid and shallow, afterwards deeper and slower, until it again ceases for an interval. It is a bad symptom, and patients who begin to breathe in this way seldom recover, though they may live for some time.

The observation of the motions or fæces.—This is another part of a nurse's work upon which the doctor depends a good deal for information.

The principal things to observe are the frequency, the colour, the odour, the consistence and the constituents.

Frequency.—Patients lying in bed (especially those on a low diet largely consisting of milk) often suffer from constipation, and it is very necessary that this should be watched and overcome by medicine, etc., when required. In some hospitals it is the custom for the sister to order the aperients (except in exceptional cases that the doctor treats), but in

many hospitals the doctor always orders the aperients and would consider it presuming for the nurse to give one unless he had written it down on the bed-letter; where this is the case, however, he generally expects the nurse to remind him when they are required.

Constipation may be a very troublesome symptom in the course of some diseases and needs very careful treatment; it is *sometimes* present in typhoid fever, it is common in anæmia, etc. On the other hand the motions are often very frequent in typhoid fever, in dysentery and in cholera, etc. Constipation *or* diarrhœa may both be caused by drugs that are being taken; and, if severe, it may be necessary to omit the drugs, at any rate for a time.

The colour.—Notice whether the motions are white or clay coloured, as in jaundice; yellow, often described as "like pea-soup," as in typhoid fever; black, called "melæna," from blood that has been acted upon by the gastric juice—or they may be black from the action of some drug which the patient is taking, such as iron or bismuth; or bright red, owing to blood from piles, from typhoid or some other ulcerative diseases, and (in children) from intussusception.

The odour.—Notice whether it is peculiar or highly offensive. Some people think they can distinguish different diseases by the odour, and there is certainly a very definite "typhoid smell," "dysentery smell," etc.

The consistence.—Notice whether there are small hard lumps, called "scybala," as in constipation; whether the motions are loose and fluid, as in diarrhœa; whether they are thick fluid, "like pea-soup," as in typhoid; whether they are watery with white flakes floating about, called "rice water stools," as in cholera; or whether they are mixed with blood and slime, as in dysentery and intussusception.

The constituents.—Besides the natural constituents of

waste material there may be undigested food, such as curds of milk, grape skins, currants, etc.; or you may find fruit stones or other foreign bodies that have been swallowed; or gall stones; or there might be parasites, such as thread-worms, round-worms or tape-worms; or there might be pus, blood or mucus. All these abnormal conditions call for special treatment by the doctor; in a few of them the treatment called for is so apparent that it would be safe to begin before the doctor arrived; for example, when you find curds of milk in the motions, it is evident that the milk is not being properly digested, and, in most cases, it would be best to at once substitute peptonised milk.

The urine.—I am not going to speak here about the testing of urine, but just the rough observation of quantity, character, etc., which every nurse is expected to understand.

A healthy adult should pass about fifty or sixty ounces of urine in the twenty-four hours. It is difficult to judge when people are lying in bed all day (as well as all night), but a healthy person should not have to rise during the night to pass urine. In some diseases a patient may pass urine of a different character at one time of the day to another; for this reason you are often directed to collect all the urine for twenty-four hours and put up a specimen taken from the whole quantity. In some diseases a very small amount may be passed, as in fevers, *acute* Bright's disease, etc.; or the amount may be much above the normal, as in chronic Bright's disease, diabetes, etc.; in these cases it is necessary to measure all urine passed and to record the amount each day on the chart. Besides noticing the quantity you must notice the colour, whether it is very pale, as in chronic Bright's disease and in diabetes; or very

high coloured, as in acute Bright's disease (or inflammation of the kidneys) and in fevers; or whether it is "smoky" in colour, which generally indicates the presence of blood; or whether there is pus or bile in it. In carbolic-acid poisoning the urine is dark green coloured, and this, of course, should be reported immediately; cases have been known where carbolic-acid poisoning has been set up by the lotions used for extensive dressings, or by the carbolic dressing applied, or by carbolic lotion used for douching purposes, or by drugs given (such as salol, etc.); and if a careless nurse should throw away urine without noticing this danger signal, it is quite possible that when other signs of poisoning appeared it might be too late to save the patient.

The nurse must also notice whether there is any pain in passing urine; any "retention," *i.e.*, inability to pass it for some time—this can sometimes be overcome by a hot bath or hot fomentations; or any "suppression" of urine, that is to say when none is secreted; this last is a very serious condition and calls for energetic treatment by the doctor. Any incontinence of urine should also be reported to the doctor. It is important when you have a patient suffering from *any* disease which causes difficulty in passing urine to notice whether the skin is acting well and the patient perspiring freely.

Vomiting.—It is important for the nurse to observe the time when the patient vomits; whether it has any relation to the taking of food or medicine; whether immediately after, half an hour after, etc. Whether it is accompanied by nausea or pain, or whether the patient feels relieved after vomiting. She must also observe the quantity vomited, the odour and the constituents. When a patient is brought in unconscious and there is vomiting present, it is sometimes

possible to diagnose the case from the smell of the vomit; a man who has taken some poison, for example, carbolic acid, opium, ammonia or (the most common!) alcohol these are all strong smelling and can easily be distinguished. In some very severe cases the vomit becomes fæcal in character and odour, for example in intestinal obstruction, and this must always be immediately reported to the doctor, as, in most cases, nothing but prompt surgical aid can be of any use. You must notice whether the vomit consists of undigested food, curds of milk, etc.; whether there is any bile in it, yellow vomit; whether there is any blood, fresh or digested—if the blood has been retained for some time in the stomach it will be dark coloured, and is generally described as "coffee ground vomit". You must also notice whether a patient who is vomiting has any hiccough, as this is a very bad sign.

Expectoration.—It is well to remember that the sputum (especially in cases of phthisis) is, or may be, infectious, and so it is very necessary for you to disinfect your hands with care after touching the spit mugs. In some hospitals these are filled with paper receptacles which are burnt after use; but it is more common to use china mugs with covers, and these should always have a little disinfectant (carbolic lotion, 1 in 40, or lysol) in them, but don't put more than a little, and never leave carbolic lotion in one by a delirious patient, as he may drink it when you are not looking. It is the sputum, when it has become dry and floats about in the air, which is infectious; and for this reason it is much better to receive it into a little lotion, or even water, than on to a handkerchief or rag where it rapidly dries. Patients with phthisis should always be provided with rags or butter muslin (instead of handkerchiefs), and these should be fre-

quently burnt; they should not be allowed to keep them under their pillows, but in a small wire basket which is hung on the head of their bed for the purpose, and which can be easily disinfected. In private work if patients insist upon using handkerchiefs, as soon as done with they should be put into a bowl of some strong disinfectant and soaked for some time before being boiled and washed. It is important to notice how much a patient is expectorating, especially in acute chest cases, but very few doctors ask to have the sputum measured, partly on account of the danger to the nurse in handling it more than necessary. To clean the spit mugs *boiling water* is the best thing to use. In the Brompton Consumption Hospital the nurses simply place all the spit mugs in a large covered tin which goes down on a lift to the engine room; here a man with rubber gloves empties them into the furnace, and they are then boiled and returned clean to the wards.

In general hospitals we avoid having cases of phthisis in if we can help it, but if nurses take proper precautions—use plenty of boiling water and disinfectants, etc.—there should be very little danger in nursing them among other patients. A nurse must always report if she notices an offensive smell from the sputum; this may mean pus in the lungs, or, if the smell is *very* offensive, it sometimes means gangrene of the lung. She must also notice whether there is any blood in the sputum; blood coughed up from the lung is called "hæmoptysis," and she must be able to distinguish between that and "hæmatemesis" (when it is vomited from the stomach); she may be quite sure it is hæmoptysis if the blood is bright red and *frothy* (that is to say mixed with air).

Hæmoptysis is a symptom of phthisis and of some forms of heart disease; it is a very alarming symptom to the patient,

as the blood may be coughed up so rapidly that some is drawn back into the trachea and suffocates him. The treatment for both hæmatemesis and hæmoptysis is much the same; it is best to keep the patient lying as flat as possible, and give him some ice to suck; some doctors order ice bags to be applied to the abdomen in cases of hæmatemesis and to the chest in cases of hæmoptysis. You will soon learn to recognise the copious grey and frothy sputum of bronchitis, and the green or yellow sputum of phthisis; the sputum of a pneumonia case is very characteristic, it is of a rusty brown colour and is very sticky, it may be tinged with blood. In heart disease the sputum is frequently tinged with blood.

CHAPTER VI.

The giving of enemata—The use of catheters—The giving of douches—Hypodermic injections.

THERE are many different kinds of enemata ordered for different reasons; we will begin with the most common.

Enema Saponis (*or soap enema*).—This is given to relieve constipation, or to clear the bowel before an operation or an examination.

It is usually given with what is called a "Higginson's syringe," the mechanism of which you are probably all familiar with. It is most important that the syringe should be kept perfectly clean; when not in use it should be kept hanging up with the nozzle downwards, and it must never be put away until it has had some disinfectant and plenty of clean, cold water pumped through it. A special syringe should be kept for any cases of cancer, carefully marked and never used for any other cases. When you are going to give an enema always have your bed-pan ready before you begin, and place a mackintosh or towel beneath the patient; if possible the patient should lie on the left side with the legs well drawn up, but you can manage quite well with the patient on her back if necessary; be sure that the syringe is filled with fluid (and not with air) before you insert the nozzle, and the nozzle must be well lubricated. Never be contented that you can give an enema as well as it is possible

to do, until you can give it without causing any pain to the patient.

The patient should be encouraged to retain the enema for a few minutes, and a pad of wool or a small towel held firmly against the anus, immediately after the nozzle is withdrawn, will assist them to do so (especially in the case of children). Different doctors order different amounts to be given; in most cases it is safe to give an adult from sixteen to twenty ounces, sometimes as much as thirty or forty ounces are ordered. The best way to make a soap enema is to put one ounce of soft soap into a bowl and rub it smooth with one ounce of olive oil, then adding warm water to the required amount, it should be given at a temperature of from 96° to 98°. In cases where it is very important to avoid any straining the soap enema is sometimes preceded by an enema of olive oil (from four to eight ounces) given two hours before and retained, if possible, for that time. Some patients are very subject to an "enema rash," which is not at all unlike the rash of scarlet fever and sometimes is accompanied by a rise of temperature; it is said to be occasionally caused by the kind of soap used, and I believe soft soap is considered to be the safest. Besides soap and oil enemas there are several other kinds given to relieve constipation, amongst them are enemas of —

Barley water.—The same quantity as the soap enema.

Castor oil.—This can be made in two ways. Take one ounce of castor oil and rub it into one ounce of soft soap and then add warm water as before; or else the castor oil can be given in sixteen ounces of thin starch; but in either case the oil must be carefully rubbed in at first, and not added last thing, or it will not combine at all.

Turpentine.—This is made in the same way as the castor

oil enema. One ounce of turpentine made up with soft soap and water, or else with thin starch. This sometimes gives great relief in cases of flatulence.

Glycerine.—This is also useful for cases of constipation; it is frequently used for children and causes less discomfort than the enema saponis. One drachm is sufficient for a child and two drachms for an adult; it should be given warm, and a special little vulcanite syringe is kept for the purpose.

Rectal wash-out.—When patients suffer much from flatulence and distension after an abdominal operation sometimes great relief can be given by a copious wash-out of warm water; for this purpose a long soft rubber tube should be passed well up the rectum and the fluid poured in through a funnel; from three to ten pints are often used in this way, the funnel being depressed below the level of the bed at intervals to allow some of the fluid to return.

I have already told you (in chapter iv.) about enemata given to relieve shock,—saline, port wine, coffee, etc., and also about nutrient enemata. I see I omitted to note that when patients are suffering from great thirst and are unable to take much by mouth, they often find great relief from the slow injection of ten or twelve ounces of hot water by rectum. Then there are—

Salt injections, given to children suffering from worms. For this purpose half an ounce of salt is given in warm water or in gruel.

Opium enema.—This may be ordered for patients suffering from severe diarrhœa, or from hæmorrhage from the bowel. Unless you receive special instructions as to the amount of opium to use, it is the custom to give thirty minims of opium in two ounces of thin starch; it must be given cold and should be retained.

The use of catheters.—It is very important for you to learn while in hospital how to pass the catheter, as every nurse is expected to be able to do it; it is not easy to describe in writing, but I would especially wish to impress upon you the necessity for absolute "surgical cleanliness" whenever you undertake this duty. Most of you know the different kinds of catheter in common use, the soft rubber, the glass, the gum elastic and the silver. I think perhaps the first named is the safest and the most commonly used for female patients. The catheter must be boiled before use and then lifted (with sterilised forceps) into some hot boracic lotion or hyd. perchlor., 1 in 4000, and syringed through with a syringe that has also been boiled. Many nurses can quite easily pass the catheter without uncovering the patient, and for some patients it is, perhaps, best to do so; but as a rule it is wiser to have the patient very carefully screened round and then to look what you are doing; in any case if there is the *least* difficulty it is better to look what you are doing than to give the patient pain or to risk touching the bed-clothes with the catheter and possibly making it septic. Before beginning, thoroughly scrub your hands and soak them in perchlor. lotion, have the patient lying on her back with the knees drawn up, then carefully wash round the meatus with perchlor. lotion. Take the catheter (which has been syringed through) out of the warm lotion and dip the point into carbolic oil (a little in a gallipot—*not* into the stock bottle!), place a finger of the left hand over the orifice of the vagina, and then very gently with the right hand slide the catheter over the finger of the left hand into the urethra; no force at all must be used; if it is in the right place it will slide in quite easily, and it should not be passed in more than about two inches. If,

by chance, you should allow it to slip into the vagina, it must be again soaked in lotion and syringed through before you try again. If a patient is unable to pass urine at all, the catheter is usually passed every eight hours; after some operations, where it is important that the bladder should not become at all distended, it may be necessary to pass it at much more frequent intervals. In all cases where the catheter has to be regularly passed, or where a catheter is left in the bladder, you must be on the look-out for cystitis (or inflammation of the bladder), though, fortunately, you very rarely see a case in hospital; it generally means that some point in the "absolute surgical cleanliness" in passing the catheter has been neglected, and a case of cystitis must always be looked upon as a disgrace in a ward. The symptoms of cystitis are high smelling urine, pain and frequency in passing urine, high temperature and, sometimes, rigors; any of these symptoms should be reported to the doctor when they occur in a patient who is having a catheter passed, or who has a catheter fixed in. The doctor will probably order the bladder to be washed out if he suspects cystitis; this is done by passing a catheter with the usual precautions and having a rubber tube and funnel attached to the end of it. First draw off the urine and then two to four ounces of fluid may be slowly run through the funnel, and then the funnel must be allowed to hang over the side of the bed while the fluid runs out again into a bowl; from twelve to twenty ounces are generally used, or until the fluid returns quite clear. If you have no special orders you are quite safe in using warm boracic lotion, but some doctors generally order Thompson's fluid to be used, and when this is ordered you are expected to mix it in the proportion of two ounces to a pint of warm water.

Vaginal douches.—These can be given with a long nozzle fixed on to a Higginson's syringe, but in most hospitals it is the custom to use an irrigator, that is to say a tin or china receptacle with a hole near the bottom to which a long rubber tube is attached with a nozzle at the end of it; the holes in the nozzle should all be at the sides and not at the end. The whole apparatus must be kept scrupulously clean. The irrigator can be filled and hung up above the bed, with the tap secure, before the nozzle is inserted; the nozzle must be boiled each time before use. The patient must lie on her back with the douche-tin or bed-pan beneath her and her legs well drawn up. The nozzle after having been boiled, and still being warm, must be lubricated with carbolic oil in the same way as the catheter.

The injections may consist of plain warm water, given at a temperature of 90° to 100°, or hot water may be ordered at a temperature of 100° to 110°—sometimes for special cases 115° is ordered. Other douches frequently ordered are boracic lotion, hyd. perchlor. (generally 1 in 4000), lysol, sanitas, Condy's fluid, iodine, etc. Patients occasionally get signs of mercurial poisoning when they are having douches of hyd. perchlor., and the nurse who is giving douches must be on the look-out for the symptoms—they are: foul breath, diarrhœa, etc.

Great care and gentleness must be used in giving douches, especially in cases of cancer, or they may cause much pain, and may bring on hæmorrhage which it is difficult to stop.

Hypodermic injections or subcutaneous injections.—(The first name being the Greek and the second name the

Latin for "under the skin".) It has become much more common of late years to administer drugs in this way, and they are certainly a great help in treatment; one great advantage that they have over medicine given by mouth is that they act so much more rapidly (being injected straightway into the system), and another advantage is that they can be absorbed by patients who are suffering from vomiting and cannot keep medicine down when given by the mouth. At the same time you must realise that they are generally drugs prepared in a very concentrated form and must be administered with great care, as a few drops more or less made a great deal of difference. You should all learn to read the hypodermic syringes, and to measure doses in them, as soon as you have the opportunity, but no one is allowed to give injections until they have proved that they thoroughly understand the way, and, as a rule, the giving of injections is left to the ward sister; it is also a rule in hospitals that every one giving a hypodermic injection should have the quantity checked by a second person.

The drugs most commonly used in this way are—strong stimulants, such as strychnine, ether, digitalis and brandy; drugs to relieve pain or to procure sleep, such as morphia; drugs to prevent pain during a short operation, such as cocaine; drugs to induce perspiration, such as pilocarpine; and drugs to check hæmorrhage, such as ergot. Most of the drugs are now made up in the form of tabloids and only require dissolving in a few drops of water; this is a very safe way of keeping them, as, if you read the label on the little tube correctly, you cannot well make a mistake in the amount.

We never give drugs in this way except by the doctor's orders (or in cases of great emergency), but if a patient

suddenly becomes very collapsed and ill from heart failure, it is generally safe to give him a syringeful (about twenty minims) of brandy hypodermically, if he is too ill to swallow brandy by mouth. I am afraid in hospital we get rather careless in the way we administer these injections without proper aseptic precautions, and very bad cases of cellulitis *have* been set up by hypodermic injections given with a dirty syringe. The needle of the syringe should be boiled (this is best done in a test tube over a spirit lamp), the syringe should next be filled and then the needle fixed on. The easiest place to inject is in the arm ; the spot selected should be washed with some antiseptic and then a piece of flesh held up between the thumb and first finger of the left hand, and the needle of the syringe (firmly held by the barrel in the right hand) quickly pricked in to about an inch beneath the skin ; be careful to avoid piercing any small vein near the surface, and be careful not to give pain by moving the needle after it has once been inserted. Inject the fluid slowly, and place a finger firmly on the point where the needle enters as you pull it out, and hold it there for a few seconds to prevent any leakage, as a drop or two wasted makes a great difference.

If it is necessary to give injections to patients regularly, I always give them first in one arm and then in the other. The syringe, after use, must have clean cold water drawn through it, and then it is a good plan to draw some spirit (methylated spirit will do) through it, as this prevents the needle from becoming rusty inside; it must then be carefully dried and a fine wire put inside the needle before it is put away.

Injections of serum, antitoxine, etc.—These are given in exactly the same way as other hypodermic injections and

with the same antiseptic precautions, but a larger syringe is used and the serum is generally injected either into the skin below the shoulder blades or in the flank. As the syringe is larger it is better to clean up the skin with some ether or benzine, as well as with the antiseptic lotion, and to have at hand a little gauze (or wool) and collodion, in case the puncture should be inclined to bleed at all.

CHAPTER VII.

Counter-irritation—Treatment by the application of cold.

COUNTER-IRRITATION is often employed to relieve pain or congestion.

Blisters.—These are generally applied in the form of "liquor epispasticus" or blistering fluid, but some doctors will order for their patients a "lyttæ cantharides," and this is a blister in the form of a small plaster which only requires to be heated before it is applied; it is made of a preparation of Spanish flies (or rather beetles) about an inch long.

Before applying a blister the skin must be washed with ether or benzine to remove its natural oiliness; then pour a little of the liquor epispasticus in a saucer or gallipot, draw a circle of vaseline round the margin of the place you wish to blister (to prevent the fluid from running down) and then paint the fluid on with a soft brush, allow it to dry, and then paint again two or three times; cover the surface with a piece of gutta-percha tissue, cut just the same size as the blister, and fix it lightly with a pad of absorbent wool and a bandage or a piece of strapping. Sometimes a blister rises well in two or three hours and sometimes it takes a whole day; if it does not rise well you may hasten matters by applying a linseed poultice. When it has risen well it must be snipped in several places at the most de-

pending part, with a perfectly clean pair of scissors, having a small dish ready to catch the fluid, and then it should be dressed with spread boracic lint. After the first dressing a bleb will very likely form again and require to be snipped, so the blister should be inspected and dressed twice a day. As a rule the spot for a blister to be applied is marked by the doctor, but if not you should remember never to place one immediately over a bone, or it will do very little good. If a blister is ordered to be applied to the spine, you are expected to apply it to each side of the spinal column; if it is ordered for the knee, you are expected to paint it *round* the knee cap; if for the eye, on the temple about an inch from the eye; if ordered to relieve headache, one behind each ear.

Mustard plasters or *mustard leaves* are employed for the same purpose as the blisters, but they are only left on long enough to produce redness of the skin and not to raise a blister. Mustard leaves are generally used, as they are cleaner and can be applied more readily; they require to be soaked for a few seconds in hot water and then applied to the skin and kept on until the skin has become thoroughly red, usually from ten to twenty minutes. Mustard plasters are made by mixing ordinary mustard with cold or tepid water; they are best spread on tissue paper (some people prefer brown paper) and applied with one fold of the tissue paper between the patient and the plaster.

Iodine liniment is sometimes painted on to relieve pain or to promote absorption. After two or three applications it often makes the skin very tender and must be discontinued for a few days, or you get a sore which is tiresome to heal up again. Tincture of iodine and liniment of iodine look exactly alike, but the liniment is much stronger than

the tincture, so you must be careful to use whichever one the doctor orders and not to confuse the two.

Setons.—This is a form of counter-irritation that you very seldom see used now, but it is sometimes ordered for constant headache or for some eye diseases. It consists of a piece of very thick silk being drawn through the skin at the back of the neck or some other place by a large needle, and the two ends tied together to prevent it coming out. The silk must be kept covered up and very clean, and it must be drawn backwards and forwards once or twice a day to keep the wound open.

Leeches.—The application of a leech is a useful way of removing blood from parts of the body and thus relieving pain and inflammation. The word "hirudo" means a leech, and they are generally ordered by a doctor under that name. Handle the leech as little as possible or he becomes obstinate and will not bite.

Wash the patient's skin thoroughly with plain soap and water, as a leech will not bite through a dirty skin, neither does he fancy the flavour of any kind of antiseptic lotion or ether; then smear the exact spot you wish him to bite with some sweet warm milk. If the leech is sent to you in a *small* box, and you are not particular that he must bite on one exact spot, it is sufficient to take the lid off and turn the box upside down on the skin surface; in about a minute you will find him hanging on and you can remove the box; but if some minute spot is marked out for him to bite you must fill a test tube about three parts full of cotton wool and put the leech in on the top, *tail first*, then hold the test tube firmly against the patient until the leech takes hold. I think this is the neatest and best way of applying them. Never leave a patient alone while he has the leeches on

(if you can possibly help it) as at any time one may fall off and alarm him; and never pull the leeches off, or they may leave their teeth in the wound. They generally take about half an hour over their feed, and they are said to suck from one to two drachms of blood, that is to say about their own weight in blood or rather more, so that when you see them arrive at about twice the size they were when you put them on, you will know it is about time for them to come off, and if they do not soon fall off you can make them do so by putting a little salt on their tail. When they come off they are generally killed by being placed in some carbolic lotion with some salt in it. Some people find it difficult to distinguish between the head and tail of a leech when they wish to apply it; the head is *smaller* than the tail. If the doctor wishes the bleeding to continue after the leech has come off, you must apply a hot poultice to the bite, but if he only wishes the one or two drachms drawn off by each leech, you must dress the bite with a little piece of gauze or wool dipped in collodion or in tinct. benzoin co., covered with a piece of wool and firmly strapped on. Be careful never to apply a leech over a vein, and after they have come off you must watch carefully for any excessive hæmorrhage. It is usual to dress the bite with a sealed dressing at once, unless you are especially told to keep it open with poultices. If the bite should continue to bleed it is no good packing over it with more wool; steady pressure with a finger will generally stop it, or the application of ice, or tinct. ferri. perchlor. I think we now come to the last form of counter-irritation I need speak about, and that is—

Cupping.—This is performed in two ways, dry and wet cupping. The latter is seldom done, and if done it is generally done by the doctor; so we will speak of dry cup-

ping. This is sometimes ordered for cases of acute nephritis, and the cups are then placed on the back in the region of the kidneys. There are special cupping glasses made, but a wineglass acts fairly well, and I have done it with gallipots; you may have to use three or four at a time. You must have ready a saucer full of methylated spirit and some pieces of blotting paper about an inch square, and a taper or matches; also the cupping glasses and some vaseline. Take a glass and smear round the rim with vaseline, have the patient uncovered and quite ready, then crumple up a piece of blotting paper, dip it in the spirit and drop it into the glass, very quickly light it with the taper and turn the glass over firmly against the patient's skin; if it is quickly done before the edges get hot this gives no pain; the light, of course, exhausts the air, and if it is properly dŏne the skin under the glass rises up and nearly fills the glass. After they have been on about a quarter of an hour they can be removed by inserting the finger nail beneath the edge of the glass, then apply a hot poultice for a few hours. Wet cupping is done in the same way, but small cuts are made in the skin just before the glasses are applied and the blood flows into the glasses; after they are removed a dry dressing or spread ointment is applied instead of the poultice.

I have gone rather fully into the different ways of applying counter-irritation, as some of them are not very often used now, and you might pass through your training in a hospital and never see leeches applied, and then go to a case for some doctor who ordered them and would think it strange if you did not know the difference between a leech's head and its tail, and how to apply it.

Treatment by the application of cold.—This may be either local or general, internal or external. Ice, when you can get it, is of the greatest benefit to many cases; it is used to reduce temperature, to allay inflammation, to produce contraction (and so check bleeding) and to destroy sensation (and so relieve pain). It is given internally to check bleeding; and it is sometimes given to check vomiting; for this purpose it used to be frequently given to patients recovering from anæsthetics, but many people now think that it creates more thirst and flatulence, so sips of very hot water are more popular at the present time. Ice, when exposed to the air, very soon wastes, and, if you have no refrigerator to keep it in, you should keep it well wrapped up in flannel and standing where the water can drip away as it melts; a plate (or soup plate) can be placed upside down in a big bowl and the ice placed on the back of the plate. When ice is ordered for a patient to suck it should never be placed by him in a saucer (or it will very soon be all melted); proper ice cups are made for the purpose, but if you have none it is easy to tie a piece of lint over the top of a jam-pot or mug, allowing it to sag down a little in the centre; break the ice in little pieces and lay them on the lint, standing the mug or jam-pot on a saucer or plate.

Ice bags are frequently ordered to be kept on the heads of concussion (or other cerebral) cases; on fractures, where there is swelling and inflammation; on hernias, before operation; sometimes they are placed on the abdomen to check internal bleeding; or are suspended on the forehead and nose of patients with severe epistaxis. The ice must be broken up in small pieces before it is put in the bag, and

great care must be taken that they are always refilled *before* all the ice is melted, as a bag full of warm water is worse than useless; they will require refilling about every two hours. A piece of lint should be placed between the patient and the ice-bag—except on the head, where (unless it has all been shaved off) the hair is sufficient protection. If you cannot obtain an ice bag, a good sponge bag, or a bladder obtained from the butcher acts fairly well as a substitute. Another way of applying ice which you do not very often see now, but which some doctors order and would expect you to understand, is in the form of—

Ice poultices.—They are occasionally ordered for cases of pleurisy or of pneumonia, and especially where you have pneumonia as a complication of typhoid fever; patients with high temperatures often find far more relief from their application than they do from hot poultices. The ice must be crushed up very finely; then take a piece of gutta-percha tissue about twice as large as the poultice is required, fold it in two, and on one half spread a layer of dry linseed meal or of wood wool; over this sprinkle some common salt, and then place on it the crushed ice; sprinkle this again with salt, and then cover it with another layer of linseed meal or wood wool; quickly turn over the upper fold of the tissue and secure the edges all round by folding them over double and painting along the fold with a brush dipped in chloroform—this should make it quite watertight. Some people then slip the poultice into a flannel bag, but I prefer to place a piece of lint between the poultice and the patient and secure it with a many-tailed flannel bandage. With care the same piece of tissue may be used several times; but you must remember when you first cut it that it will grow smaller with each folding over. Ice poultices require

renewing *at least* every two hours, sometimes much more frequently ; it depends a good deal upon the temperature of the patient.

Cold evaporating lotions are often ordered to relieve inflammation, and you must remember that lint soaked in evaporating lotion must *not* be covered over with jaconet or wool and must be changed *very* frequently, a second piece of lint being kept soaking in the lotion, together with a lump of ice if possible. Some doctors like the lotion to be constantly dripping on the part ; to arrange this you require a high cradle and suspend from it a jam-pot or mug, keep it half full of lotion and ice, and have a piece of lamp wick or a strip of lint soaking in the lotion and hanging over the side on to the lint with which you cover the affected part ; you must arrange the bed with mackintoshes or a flat dish to catch the water as it flows away. Spirit lotion, eau de Cologne, vinegar, etc., can all be used in this way and often give great relief.

Local anæsthesia.—A piece of ice held against the skin, or, better still, the application of a spray of ethyl chloride or of narcotile, will considerably lessen the pain when an aspirating needle is about to be inserted, or a small abscess opened, etc.

We now go on to the *general application of cold* with a view to reducing temperature in typhoid and other high fevers.

Not many years ago cold baths and ice baths were frequently ordered, but now it is very rare to see them employed in England. A patient who is sufficiently ill to require one, will probably be so ill that the doctor will be present while it is given and will direct the proceedings. A bath that is long enough for the patient to lie at full

length is essential, and it must be wheeled to the bed-side; before you begin operations you must have brandy ready mixed, and also a hypodermic syringe filled in case of sudden collapse. The patient's shirt must be removed and a sheet laid over him (not wrapped round him), leave one arm out so that you can easily watch the pulse, he must then be gently lifted on his under sheet and lowered into the bath; the doctor will order the temperature at which he wishes the bath to be given, and for how long the patient is to remain in it. It is usual to place the patient in a bath at a temperature of about 90° and to lower the temperature (by the addition of ice) to about 70°; from ten to fifteen minutes is the usual time to keep the patient in a cold bath when given to reduce temperature, providing he bears it well and does not become collapsed; but he must be carefully watched, brandy administered if necessary, and he must be lifted out if he becomes blue, or if the pulse shows signs of failing. The bed must be prepared with a long mackintosh and an old blanket to lay him upon when all wet; hot bottles and hot blankets should be ready in case of need, but not applied if his condition is fairly good. The wet sheets must be removed and he must be quickly dried (using no unnecessary friction) and his dry shirt put on, and he must be left very lightly covered over.

Even when done with the greatest care, this must necessarily be an exhausting process to the patient, and there are other ways of reducing temperature which most people think quite as effectual and far less exhausting.

Ice cradles.—These require a great deal of ice, but they are easy to apply and cause no disturbance to the patient. The shirt is removed and the patient covered with a thin sheet; two long cradles are then placed over him, and plenty

of ice bags—six to twelve or more—are suspended from the bars of the cradles, which are then covered over with a blanket and securely tucked in.

This treatment may be continued for some hours if the temperature of the patient is watched to see that it does not fall too rapidly.

Cold sponging.—This is frequently ordered to be done whenever a patient's temperature goes up to a certain point, and in some cases this often means (during the critical stage of his illness) about every two hours; so when you have this order with reference to two or three of your cases (and you remember that each sponging should last for twenty minutes) you will know that your work is fairly well cut out when you are, perhaps, alone on night duty in charge of a large ward. Most patients strongly object to cold sponging, so make it as little unpleasant as possible, and be careful to avoid draughts while the patient is uncovered, or you may easily allow him to get bronchitis or pneumonia to add to his ills.

The doctor will order the temperature for the sponging, whether it is to be tepid, cold or ice sponging, and for how long it is to be continued,—twenty minutes is the usual time. A blanket should be rolled in under the patient, his shirt removed and only a sheet left over him. Begin with tepid water and bring it down to the required temperature by adding lumps of ice. Only uncover the part you are sponging at one time; first the head, neck and arms; then the chest and abdomen; then the legs and right down to the soles of the feet; then turn the patient gently on his side and do the back; I always think that slow sponging down the spine reduces the temperature and soothes the patient more than the sponging anywhere else. You must keep

on wringing out your sponge afresh, and the heat of the patient's body will rapidly make the water warm, so you must have a basin of broken ice by you and keep on adding it to your water. Don't "dab" your patient with the cold sponge, but use long, steady strokes; use a large sponge, and it is not at all necessary to wet the bed. Dry him gently without much friction, put his shirt on and leave him very lightly covered; in a warm ward one blanket is quite sufficient. Take the temperature when you finish sponging and again in about half an hour; it is sometimes lower then than it is immediately after. If, during the sponging, the patient has a real shivering fit, or becomes at all blue, it is better to stop, even if you have not been sponging for the prescribed length of time. If a doctor orders cold sponging and before you can carry out the order the patient begins to perspire freely, it is better to wait and ask advice, as the temperature will probably fall naturally if the perspiration continues and you might check it by sponging with cold water.

Cold packs.—These are sometimes ordered instead of sponging, and they are often more effectual in reducing temperature.

There are several different ways of giving them. I think the best way is to roll in a long mackintosh beneath the patient, then roll a sheet lengthways and wring it out in cold water, roll it under the patient and wrap it round him (if he is a big man you may require two or an extra draw-sheet on the body), then take some fairly big lumps of ice and slowly rub him with it over the wet sheet; many patients who much dislike cold sponging rather enjoy this treatment if carefully done.

Always find out from the doctor how long he wishes the

pack continued; twenty to forty minutes is often ordered. The temperature must be taken frequently and the pulse watched, some brandy being ready at hand in case of need.

I have said leave the patient lightly covered after these cold applications, and I think nurses are very often thoughtless in covering weak and helpless patients (with high temperatures) up with several blankets and a heavy counterpane; in a warm ward a sheet and one blanket are quite sufficient for patients running very high temperatures, and more weight only increases the restlessness and adds to the weakness.

CHAPTER VIII.

Treatment by the application of heat—Care in the use of hot bottles.

When speaking of treatment by the application of cold we said that the treatment might be divided into local and general, internal and external, and the same applies to the application of heat. It may also be applied in the form of dry heat or moist heat; dry heat can be applied at a higher temperature than moist heat; moist heat is most commonly used as a means of treatment.

Hot inhalations.—These are often ordered for patients suffering from diseases of the throat and chest. A very convenient china inhaler is made with a large cork at the top, and the cork is pierced with a glass tube which acts as a mouthpiece; there is also an opening at the side to admit air. When you cannot get an inhaler a large tea-pot acts fairly well, or a jug is better than nothing.

The inhaler must be wrapped round with flannel so that the patient can hold it with comfort, and a towel provided to throw over his head to keep the steam in. About a pint of boiling water should be put in the inhaler, and the doctor may order the addition of some drug, such as tinct. benzoin co. (Friar's balsam), one drachm to a pint of water; or creosote, a few minims.

Always remember that if a patient who is using an inhaler

regularly has an attack of hæmoptysis, the inhaler should be omitted until you are able to ascertain the doctor's wishes on the subject, as the moist heat would probably bring on more hæmorrhage.

Seigel's steam spray is also useful for inhalations. It is sometimes used with a disinfectant in it, but it is especially useful in cases of diphtheria when used with some soda bicarb.; when sprayed into the throat or into the tracheotomy tube it seems to loosen the sticky mucus.

Steam kettles.—These, also, are much used for throat and chest cases. When one is ordered the bed must be screened round and a bed top put up, so as to concentrate the steam.

They must be refilled with boiling water at regular intervals (about every two hours) and the lamp attended to. They must always be carefully watched, especially when used for children or delirious patients, as there have been many accidents with them, and I know of one child who died from trying to drink out of the spout.

In a children's hospital I once visited in Zurich the steam kettles were all heated by electricity, and so the danger from the upsetting of the spirit lamp was overcome.

Hot fomentations.—A few years ago, when suppuration was the usual sequence of an operation, poultices were used a great deal in surgical work; now they are hardly ever ordered except for medical cases, and their place is taken (when moist heat is required) by hot fomentations.

I need not tell you the things necessary in applying a fomentation to a wound, but I am anxious for you to realise the necessity for surgical cleanliness in applying them; the wringer must be perfectly clean, and the lint or wool not having been rendered sterile by baking in the steriliser, must

be made so by having absolutely boiling water poured over it. Also I wish to point out to you that when fomentations are ordered to relieve a pain, say in a joint or in the abdomen and *not* as a dressing for a wound, it is very extravagant to use the same things (lint, jaconette, wool, etc.) that you would use for a dressing; pieces of flannel or old blanket answer just as well, one piece wrung out and a piece a good deal larger laid over it; for these cases you must have two flannels (besides the covering), so that one can hang to dry while the other is on; always hang your wringer up to dry, in a clean place, as soon as finished with, as you cannot get a fomentation really hot if your wringer is saturated with cold water.

Occasionally some drug is ordered to be sprinkled on a hot fomentation; tinct. opii. (or laudanum) may be ordered, and unless you are told to use a special quantity the usual amount to sprinkle on is half or one drachm.

Turpentine stoup.—This is simply a hot fomentation with two to four drachms of turpentine sprinkled on it; it often gives great relief in cases of pleurisy, etc.

Vinegar fomentations.—Flannels wrung out in hot vinegar are very useful for children suffering from croup; care must be taken not to leave them on too long.

Spongio piline.—In some hospitals this is used almost entirely for fomentations applied to relieve pain; it is a very thick woolly material with a mackintosh back; it only requires a piece of flannel to cover it with, and retains the heat for some time.

It is the custom in hospitals to change fomentations every four hours (unless special orders are given), and it would not be possible to do it much more frequently where there are so many to do, but if you have ever had a very acute pain

that was relieved by moist heat applications, you will remember that the relief very likely passed off after the first half-hour, and that the next three and a half hours seemed like three and a half days or weeks; so that if you are treating a case with really severe pain try to renew the fomentations as frequently as possible.

Linseed poultices.—A well-made poultice is a most soothing and comforting thing; but a badly made one, applied tepidly warm, is enough to give any restless patient a thoroughly bad night.

It is only by practice in the wards that you can learn to make poultices well, and here I will only urge upon you the necessity for having everything ready before you start (including your patient, with binder rolled in, etc.) and to have your bowls, etc., well warmed; always have some boiling water in a jug or basin beside you and repeatedly dip your knife or spatula into it, to prevent it from sticking. Most books on nursing recommend you to smear a little oil on the surface of your poultice, but I am quite sure that if you have good linseed meal (which contains plenty of oil), and you mix the linseed to a right consistency, and spread it evenly with a hot, wet spatula, it should not require any oil, and you must not be contented with yourself as a poultice-maker if the poultice sticks to the patient at all. Some people say that a poultice can only be well made if you place your boiling water in a bowl and then sprinkle in the linseed stirring vigorously all the time; others think it best to put the linseed in first and stir in the water; for my own part I think you can make excellent poultices whichever of the two ways you proceed, providing everything is well warmed and that you are rapid in your movements. It is generally agreed that a poultice should be about half an inch thick, if

thicker it is too heavy for the patient's comfort, if thinner it very soon becomes cold. If you cannot get poultice cloths, flannelette does very well to make poultices on, and in some hospitals it is the custom to use tow—smoothly teazed out; this keeps the poultice nice and warm, but some patients find it rather irritating.

Mustard poultice.—When this is ordered the doctor generally means you to apply a linseed poultice with some mustard added (about one part of mustard to fifteen parts of linseed meal); to ensure the mustard being evenly distributed it is best to stir it into the water before you sprinkle in the linseed; or else to mix it well with the dry linseed meal before adding the water.

We have spoken about mustard plasters (proper) and mustard leaves under the heading of "Counter-irritation".

Charcoal poultice.—This is sometimes ordered for cleansing a very foul wound or a sloughing bed-sore. The simplest way to make it is to proceed in exactly the same way as you do for a linseed poultice, but taking one part of charcoal to two parts of linseed meal.

When poultices are discontinued the patient should be kept warm with a cotton-wool jacket for some time after.

Be careful not to put poultices on too hot to little children, whose skins are very sensitive; or to paralysed or unconscious patients, who cannot tell you if the heat is too great; very troublesome burns have been caused in this way.

There is one other thing I would warn you about before leaving the subject of poultices, and that is that if you are poulticing a patient in the hungry stage of typhoid fever, you must be careful to be able to account for the cold

poultice, as I once went to put on a poultice in a dark tent and though I searched high and low with my lantern I could nowhere find the poultice, and it was only the sticky condition of the man's moustache that showed me where it had gone. That man did not have a relapse, but he deserved to!—of course he afterwards told his mates that he was dying of starvation and that the poultice saved his life.

Hot baths.—Every bath-room should be provided with a bath thermometer, and you must learn to use it regularly for testing the heat of the water; you must be exact and quick in reading the thermometer, as the mercury soon runs down when removed from the water. Unless special orders are given a tepid bath should be given at a temperature of from 86° to 92°, a warm bath from 92° to 98°, and a hot bath from 98° to 104° or 106°, above this it would be considered very hot.

If a bath is ordered at a certain temperature you are expected to keep it at that temperature as long as the patient is in it (by adding more water); it is a good plan to throw a blanket over the top of the bath to keep the heat in. Wrap your patient in a blanket directly he gets out of the bath, and be very careful to avoid all draughts and to get him to bed quickly and warm. Hot baths are generally ordered to promote perspiration, and these precautions make all the difference to their success or failure.

Mustard baths.—About a tablespoonful of mustard should be added to each gallon of water. The mustard must be put in a bag, or tied up in a piece of flannel.

Sulphur baths.—The usual proportion of sulphur is about six ounces to a large bathful of water. The sulphur must be dissolved in boiling water and then added to the bath.

Oatmeal baths.—These are made by tying up about half a pound of oatmeal in a muslin bag and squeezing it out in the water until the water feels soft. The bag of oatmeal will do to soften several baths.

Soda baths.—Simply throw into the bath a quarter to half a pound of bicarbonate of soda—or ordinary soda can be used—according to the size of the bath.

Boracic baths.—Sometimes you may be ordered to place a burn case in a bath of warm boracic lotion; frequently arm or leg baths of boracic lotion are ordered for septic cases; these may be continued for some hours or days together, and you must use your skill in making your patient comfortable while in them.

Patients with an arm in a bath always require a pad under the arm (where it rests on the edge of the bath), and this pad should be covered with jaconet or the bed soon becomes wet. These continued baths must be kept warm by bailing out some of the lotion and adding more hot at intervals; they should be covered over with a mackintosh. If it is necessary to keep the arm (or leg) in the bath day and night, the bath must be emptied and cleaned once a day; but if the doctor will allow you to apply fomentations through some hours of the night and keep the limb in the bath during the day it is much more comfortable for the patient, and this gives you an opportunity of cleaning the bath, etc.

Hot sponging.—*Very* hot water applied to the head and back of the neck often relieves headache, when cold applications fail, and will sometimes help a restless patient to get to sleep.

Occasionally a doctor will order very hot sponging for a typhoid or other fever case; as a rule patients very much

prefer it to cold sponging, and it sometimes causes them to perspire and the temperature to come down.

Hot pack.—This is sometimes ordered for kidney cases or cases of uræmia, etc. Take off the patient's shirt and roll in a long mackintosh covered by a hot blanket; then wring out a large sheet (ready folded for rolling in) in water as hot as you can bear it, using a draw-sheet as a wringer; roll it in and wrap it round the patient with his arms inside, then turn up the sides of the hot blanket he is lying on over the wet sheet, cover him with another long mackintosh and plenty of blankets; put in three or four hot bottles and tuck him up warmly, giving him hot drinks frequently. The sheet must be wrung out and rolled in very rapidly as it soon cools. The doctor will direct how long the pack is to last—twenty minutes to one hour is about the usual time ordered; at the end of the specified time you must have ready a warm flannel shirt and a hot blanket; quickly take out the wet sheet, mackintosh and blankets, *very* quickly dry him and roll him in the warm blanket and dry shirt. Patients generally find a hot pack very soothing and sleep for some hours after it. Some people in giving a hot pack wring out a *blanket* in hot water, but it is very difficult to handle a heavy blanket quickly enough, and if you have a dry, hot blanket beneath the patient, and wrap it round him over the hot wet sheet, it seems to act quite as well. The patient generally continues to perspire freely for some time after you remove the wet sheet, and it may be necessary to dry him and change his flannels several times; great care must be taken that the room is warm and that he is shielded from all draughts.

Hot-air baths.—These act in the same way as hot packs and are used for the same class of patients; they are rather

more trouble to give and patients do not like them nearly so well, but some doctors prefer them. A special apparatus is necessary, something like a steam kettle minus the steam, but with the spirit lamp. You prepare the patient by rolling in a long mackintosh covered with a hot blanket, take off his shirt and wrap the blanket round him; then put over him two long cradles (wicker, if possible, as any with metal get too hot); over the cradles place another long mackintosh covered by two or three more blankets which must be securely tucked in all round, right up to his chin and especially round the pipe which carries the hot air in at the foot of the bed. Be very careful that no part of the patient comes near the hot pipe or very bad burns may result, and as these baths are generally given to people with kidney disease their skin is very tender and liable to burns. About 120° to 130° is the heat generally ordered, and unless you have special orders a hot-air bath should last for twenty minutes; hot drinks should be given frequently. At the end of the time, turn out the lights and take away the lamp; slip out the cradles and top mackintosh and leave the patient lying in the blankets till he stops perspiring; perhaps for two or three hours.

Vapour bath.—This is given in exactly the same way as a hot-air bath, but with rather a different apparatus, in fact a steam kettle answers the purpose very well. The doctor will order what heat he wishes to have maintained; it is only necessary for you to remember that moist heat cannot be borne at such a high temperature as dry heat.

Sometimes with any of these baths or packs an—

Injection of pilocarpine is ordered, to increase the action of the skin. Occasionally a doctor may order an injection of pilocarpine by itself; in that case he expects you to pack your patient up in hot blankets, etc. (as though you were

going to give him a hot pack), and to give him hot drinks and try all you can to promote perspiration. You must remember that pilocarpine increases the flow of saliva, and if it is given to a patient who is not fully conscious, he must be carefully watched, and his head kept on one side, or the saliva may flow back into the trachea.

Hot-water bottles.—In hospital, hot bottles seem to be such a necessity that one wonders how people got on before they were invented. In private or district work where you cannot get a good supply, you will find strong wine bottles (well corked up) a good substitute, or a hot brick heated in the oven and carefully wrapped up in flannel will keep hot for a long time; another substitute which I was introduced to by a poor woman in a case of sudden illness in a cottage was the *oven shelf* hastily borrowed from a neighbour who had been baking!—this, wrapped up in plenty of newspapers, kept the bed warm for a long time.

We generally use earthenware bottles in hospitals, and (if you can get them) a few rubber ones; the latter are the most comfortable, but they do not keep hot so long as the earthenware and they soon wear out; they will often help a patient who is restless with pain in the chest or abdomen to settle off to sleep, especially if applied on the top of a hot fomentation.

Hot bottles must always be wrapped up in flannel and the greatest care taken to avoid burning the patient.

Tiny babies may feel the heat and not be able to move away from it; patients suffering from paralysis, or patients unconscious from injuries or from anæsthetics will not feel the heat at all and a carelessly placed bottle may cause a very severe burn, so you must be very careful to see that there is always a blanket between an unconscious patient and a hot bottle.

There have been so many cases of severe burns from bottles, with such very serious results to the patients (and they are things that can quite well be avoided with care), so that we are obliged to look upon it as a very serious offence for a nurse to allow her patient to be burnt (even slightly) from a carelessly placed hot bottle.

CHAPTER IX.

The administration of medicines and stimulants—Poison cases and their treatment.

The regular and punctual administration of medicines is a very important part of a nurse's duty and must be done with great care and not hurried over.

In most hospitals the medicine for each patient is kept on a bracket above his bed (well out of the patient's reach), and where it is arranged like this you have only to carry round on a little tray a graduated medicine glass, a small jug of fresh drinking water, a basin of water to wash your glass in and a cloth to dry it on; if there are oils to be given you must also have a small china measure, and it must not be washed up in the same water.

In hospitals where the medicines are all kept in one cupboard you will require a tray or basket large enough to carry round the medicine bottles as well, as (in a long ward) it takes too long to have to run back to the cupboard for each dose.

Most hospital patients think themselves badly treated if they do not have a bottle of medicine given them, and the worse it tastes the more good they think it will do them: for these patients no drink of fresh water is necessary, but to sensitive patients it is unkind not to give them a drink

(after a dose of medicine with an objectionable taste), and it is very little trouble if you carry the small jug of fresh water round with you.

Never give a dose without first reading the label (however well you may think that you know it), so many fatal mistakes have been made by this form of carelessness, and it is very easy when you are giving many doses of one ounce to continue doing so when you come to a patient whose dose consists of one drachm.

If you should ever be so unfortunate as to make a mistake *at once* report it, so that no time may be lost in administering an antidote, or giving an emetic.

You must remember that many medicines contain poisons —strychnine, arsenic, opium, etc.—and when patients are very ill the dose ordered is just as large as can be given with safety; and if, by chance, you give more than the dose ordered you risk poisoning your patient, who, with a correctly administered dose, you are expected to cure; so you cannot be too exact and careful in giving medicines.

Always shake the bottle, even when you see no sediment at the bottom; one of the drugs may be heavier than the rest and you do not want to give that one drug alone when you come to the last dose; always hold the bottle with the label uppermost, so that you keep the label clean and readable; dirty labels are no ornament to a ward.

Infectious cases, such as typhoid, diphtheria, erysipelas, etc., and patients suffering from cancer (especially those with cancer of the lip, mouth or throat), must have medicine glasses kept for their especial use and be washed up and dried separately.

It is well to learn all you can about medicines and the reasons for which the different drugs are prescribed; a short course of elementary dispensing would be a great benefit to

every nurse, and it is now given in some of our best hospitals.

There are certain drugs which should be given before food and others which should be given after food; as a rule bitters, gentian co. etc., and bismuth should be given before food, and cod-liver oil, arsenic and iron you are always expected to give after food. In most hospitals the "three times a day" medicines are given at ten, two and six o'clock, and the "four hourly" medicines at the same hours day and night; the "six hourly" medicines are given at twelve and six, day and night; "before food" medicines, a quarter of an hour before breakfast, dinner and tea; and the "after food" medicines, a quarter of an hour after the same meals. The fluid measure used for medicines is the following: sixty minims = one drachm, eight drachms = one ounce, twenty ounces = one pint; and the solid measure used for powders is: twenty grains = one scruple, or sixty grains = one drachm. The signs used in writing prescriptions are: ♏ = minim, ℈ = scruple, ʒ = drachm, ℥ = ounce, O = pint; the signs should always be placed first and the number after the sign. A drachm is *about* a teaspoonful, and half an ounce is *about* a tablespoonful, but spoons vary a great deal in size, so it is always best to measure in a medicine glass.

Medicines and poisons (or liniments, etc.) should never be kept together; neither, if possible to avoid, should they be kept in the same kind of bottles, and all poisons *must* have a poison label on the bottle.

In some hospitals the doctor orders all aperient medicines, in others it is left to the sister; patients lying in bed a great deal are very apt to require a good deal of medicine, but this can sometimes be avoided by a little careful attention to the diet given. Medicines that act slowly, such as pills, liquorice powder, etc., are given at night, so that they should act in

the morning; but jalap, salts, etc., act quickly when given on an empty stomach, so are best given in the early morning before breakfast; castor oil is best given at night, floating on hot coffee, bovril or peppermint water. About the strongest aperient medicine we have is croton oil; one minim (or at the most two) is a sufficient dose for an adult; and it is often ordered for patients who are quite unconscious or who have difficulty in swallowing, as the smallness of the dose makes it easy to administer. The usual way to give it is to place a small bit of butter on the handle of a spoon, make a tiny hole in the butter and drop the croton oil into it, cover it over and place it far back on the patient's tongue; it will then slide down his throat as the butter melts. Calomel can also be given to unconscious patients on butter in the same way, and you should remember this when you take in a bad case of concussion of the brain, as it is important to get the bowels relieved as soon as possible.

The dispensary bill is always a very heavy one, and every care should be taken to avoid waste. Many drugs in common use are especially expensive—opium and all its preparations, iodide of potassium, etc.; and some drugs largely used in ointments—belladonnæ, etc.—are also very expensive. Never send a bottle to be refilled if you think the doctor may call before the next dose is due and alter the prescription, and when a patient goes out, or his medicine is omitted, mark off the label, so that the bottle is not filled again by mistake. Iron and various other medicines stain the sheets badly, so great care must be taken not to spill them, and children should have a cloth tucked round their necks when they are given their medicine.

Sleeping draughts are generally given about eight o'clock when the ward work is finished and the ward can be kept quiet, but some drugs (such as sulphonal, trional, etc.) act

very slowly, so it is best to give them at the six o'clock medicine round. Some patients sleep comfortably for two nights after a sleeping draught, and when draughts are ordered "every night, if necessary," the nurse should encourage the patient to do without it occasionally, as it is very easy to get into the habit of not being able to sleep without a draught. A patient must always be watched after he has had a sleeping draught, especially the first time he has it. Perhaps the most commonly used sleeping draught is opium (in some form or other), and as some people are much more easily affected by opium poisoning than others, it is most important to watch the result of the first dose (we will speak of the symptoms of poisoning very soon),—little children, especially, can only bear *very* small doses of opium.

Opium, or one of its preparations, is used very extensively in the making up of medicines, but it is well for you to know that opium diminishes the secretions of the body and so upsets the digestion. It has an especially bad effect upon patients with Bright's disease; and, unless it is really essential, a doctor seldom orders any preparation of opium for patients who have albumen in the urine.

Before leaving the subject of medicines I may remind you that they are occasionally prescribed in the form of an "inunction," that is to say that they are made up into an ointment and rubbed into the skin. Mercurial ointment is sometimes ordered for cases of tubercular peritonitis, etc., and some weakly babies improve wonderfully if they are regularly rubbed with cod-liver oil.

Stimulants.—The stimulants most commonly used in hospitals are brandy, whisky, port wine and (occasionally) champagne. The doctor orders the amount he wishes to be given, but very frequently he leaves it to the nurse to divide

it into suitable doses. As a rule a patient on whisky or brandy is given from two to ten ounces in the twenty-four hours; not *more* than one ounce should be given at a time (unless with special orders), and the usual dose is half an ounce; of course if a patient is very ill it may be necessary to divide it into smaller doses and give it more frequently. If the stimulant is given to promote the patient's appetite, some, at least, should be placed by him to take with his meals; if it is given to stimulate a failing heart it should be given frequently at regular intervals—every hour when the patient is very ill. The usual amount of port wine ordered is three to six ounces, and two ounces of this may be given at a time; any of these stimulants will sometimes help a restless patient to get to sleep, so one dose should be preserved for the time when the ward is settled for the night and the lights turned low. Most doctors order stimulants in small quantities at first, and it is a very good plan, as they can then increase the dose as the illness continues and the heart failure progresses. Always remember how easy it is for patients to get into the habit of thinking alcohol necessary, and it is sometimes well to remind the doctor if a patient (when convalescent) is still left on his stimulant, so that it may be gradually omitted before he is discharged; or when he gets to his poor home and misses the nursing attention and the nourishing food he has been having in hospital, he may put down his increased feeling of weakness to the loss of the stimulant he has been accustomed to, and, instead of trying to get more nourishing food, he will probably repair to the public-house.

Cases of poisoning.—Besides the cases that are brought in as having been poisoned, suicides, etc., you must remember that cases sometimes occur owing to medicine given

by mouth or hypodermically in hospital, also sometimes by drugs absorbed through the skin, and a nurse must learn what symptoms to be on the look-out for when different drugs are being administered. I think I told you that I knew of a patient who killed himself by drinking the carbolic lotion out of his spit-mug in a hospital, and not long ago either two or three patients in an asylum died from an overdose of chloral, though I believe it was proved that the nurse gave the correct dose marked on the bottle and the mistake occurred in the dispensary.

Perhaps the most common cases are :—

Opium poisoning, and by this we mean all the preparations of opium, including morphia, chlorodyne, etc.; the symptoms are intense sleepiness, contracted pupils and very slow respiration. It is difficult to give you any definite rule as to when these symptoms become dangerous; and when a patient has been given an injection of morphia to help him to sleep there is no need to be anxious because he appears drowsy and the pupils of his eyes are somewhat contracted; but if he sleeps very heavily for some time, and has contracted pupils *and* his respirations become very slow—say eight or ten a minute—then it would be well to ask advice. When a case of opium poisoning is brought in he is generally given an emetic, and then you must do your best to keep him awake until the doctor arrives. A simple emetic that is always at hand is half a pint of tepid water with a tablespoonful of salt or mustard stirred into it. It used to be the custom to make patients suffering from opium poisoning to walk about and not be allowed to sit down, but they are liable to attacks of heart failure, and I think most doctors prefer them to be allowed to lie down, and that you should try to keep them awake by flicking the face and chest with

a cold wet towel, etc. They should be given strong hot coffee to drink, or, if they are too bad to swallow, they should be given coffee and brandy per rectum.

Belladonnæ (and atropine) poisoning.—This sometimes occurs accidentally from medicine given. The symptoms are dilated pupils, severe pain in the head and delirium, sometimes diarrhœa. I remember one little boy who had been treated as an out-patient and given a medicine with belladonnæ in it; of course his mother had not noticed the first symptoms of poisoning (dilated pupils), and when he was admitted late one evening we had a very anxious night, the child behaving like a man with very violent delirium tremens. A prompt emetic is necessary, followed by hot coffee and other stimulants.

Oxalic acid poisoning.—With all acid poisoning cases there is generally severe pain in the throat, gullet and stomach, a rapid pulse, vomiting, which (in the later stages) becomes blood-stained, and the patient becomes cold and covered with a cold perspiration. After an emetic, chalk, lime or whitening should be given in water or milk; whitening can generally be obtained even when far away in the country, but if not it is possible to scrape some plaster from the walls or ceiling, and in this way a good antidote can be made.

Carbolic acid poisoning.—First give three or four ounces of olive oil and follow that by an emetic; the olive oil will absorb the acid and make it less harmful. Then give some sulphate of soda, or sulphate of magnesia, or lime-water in milk.

Ammonia poisoning.—First an emetic; then vinegar and water, or lemon juice; olive oil and plenty of milk.

Corrosive sublimate and iodine poisoning both require an emetic, followed by large drinks of arrowroot, and the white of egg in water.

Paraffin oil poisoning.—This appears to be popular with a certain class of gutter children, and I have had three cases in within a week from a certain London slum. It is often easy to diagnose from the smell of the clothes; and I think very often the clothes have retained more of the oil than has found its way into the child's stomach; but when the mother rushes up saying that a half-pint bottle was just full and the child has consumed it all, it is safer to take it in and administer an emetic, followed by coffee or other stimulants.

I began this very rough list of the most common poisoning cases which you are likely to see with opium as being the *most* common, but I think I made a mistake and should have first spoken of—

Alcoholic poisoning as being the most common. If you ever have an opportunity of gaining some experience in the casualty department of a large hospital, you will soon learn what an extremely difficult thing it is for a doctor to decide whether a patient brought in unconscious is merely drunk, or suffering from some head or other injury. He may have a scalp wound which is promptly shaved and stitched up with the assistance of the policemen who carried him in; then, if his breath smells of alcohol, he is probably condemned as drunk and marched off to the police station; on the other hand, he *may* have only had one glass of beer shortly before his accident (quite sufficient to make his breath smell) or some one may have given him a drink of brandy before he was brought up to the hospital, and it is quite possible that his dazed condition is due to cerebral hæmorrhage or to a fracture of the base of the skull, and the unfortunate man may be found seriously ill or even dead in his police cell in the morning. At the same time a drunken man with a slight scalp wound and in a very noisy condition is not welcomed in the accident ward among a lot of bad

cases who want to sleep, and I am afraid the unfortunate young house surgeons who have to decide whether to admit or not will always be liable to make mistakes. There was a great outcry a little while ago about these "drunk or dying" cases, and I think before long every large hospital will probably have some rough accommodation where they can be kept at any rate for a few hours under observation, without the necessary "scrub up" that has to be given to patients admitted to the wards. Fortunately these decisions (to admit or not to admit) very seldom rest with the nurse, and I am wandering from my subject in telling you of them, but I wanted you to see why you may have to take in and treat a man who proves to be "only drunk". An emetic followed by hot coffee is generally sufficient treatment.

Hot bottles and hot blankets are required for all bad poisoning cases, as the shock to the system is very great.

You may have noticed that I have said nothing about the—

Stomach tube, and have only spoken of emetics, antidotes, etc.; this is because I have been thinking especially of what you can do by yourself for a case, but most doctors who are called to a bad poisoning case prefer to wash out the stomach as the first treatment, and they prefer it for various reasons; for one thing it is more rapidly effectual than an emetic, and for another thing many poisons—such as oxalic acid, ammonia, carbolic acid, etc., have a very destructive effect upon the œsophagus as they pass down it on the way to the stomach, and if you can bring the poison back through the tube, you save some further destruction. For this same reason some doctors do not give emetics in these acid-poisoning cases, even when they have no stomach tube handy, but use all their endeavours to neutralise the poison in the

stomach. When you are waiting for the doctor to pass the stomach tube, have ready the long tube with a glass funnel attached, a large jug full of warm water, a big bowl or receiver, a gag (or two pieces of firewood with lint securely tied round them) and some glycerine or olive oil; the stomach will be washed out (until the fluid returns quite clear and free from smell) by alternately filling the funnel and holding it up high and then, as soon as it is empty, lowering it into a bowl on the floor; when the fluid returns quite clear it is usual before removing the tube to pour in some olive oil, white of egg and water, or some strong aperient (according to the nature of the case) and to leave it in the stomach. It is a very unpleasant process for the patient, and when done for an attempted suicide or an alcoholic with the assistance of several policemen (as a determined suicide will resist all attempts to save his life very strongly) it is by no means a gentle process.

I did just mention that poisoning sometimes occurred from drugs absorbed through the skin or tissues; carbolic acid, perchloride of mercury and iodoform, etc., are sometimes so much used in surgical dressings that it is necessary to remember that they are all strong poisons and if applied too freely to a *large* raw surface they may be absorbed in sufficient quantity to act as a poison. Where there is any doubt as to the safety it is better to use boracic lotion for washing large surfaces, and boracic lotion is always used for eye cases, for mouth or throat cases (including those of tracheotomy) and for burn or scald cases; some doctors prefer to use it for operations upon the deep glands of the neck.

Since writing the above I have seen a drug (that was new to me) used with such markedly good effect in poison cases, where the poison swallowed was an acid, that I feel obliged

to add a short note about it. In cases of ammonia or other strong acid poisoning, the administration of chloretone, in doses of ten grains or so, gives immediate relief to the intense pain in throat and stomach ; but of course the usual antidotes are necessary as well.

CHAPTER X.

Splints—Bed-cradles—Surgical dressings, etc.

In speaking about splints the subject seems to be such a wide one that it is difficult to say anything that will be very useful and at the same time is sufficiently concise.

The object in applying a splint is to secure support or to give rest to the injured or diseased part while the process of repair is going on; with this object innumerable splints have been invented, and in different places you will find that doctors have very different ideas as to what splint is most effective in securing this absolute rest to the affected part.

The materials generally used in the manufacture of splints are wood, metal, gutta-percha, leather, plaster of Paris, etc.; for small children (or as a temporary emergency splint for an adult) a good splint can be made of the corrugated paper that is now so much used for packing purposes.

Most of these splints require to be padded, and this the nurse must try to do to suit the doctor she is working for, as some like thick pads, some like thin, some like firm pads and some like soft, but all doctors agree in liking the padding to be absolutely even, and to get this result requires practice and neatness. Splints that are going to be applied on little children, or on a limb where there is a discharging wound, should always be covered with jaconette or Bilroth's cambric firmly sewn over the padding; they can then be

easily washed with some antiseptic every time they are re-applied.

Bilroth's cambric is a comparatively new material; it seems to answer well when used in place of jaconette, and it has the advantage of being a good deal cheaper and that it stands boiling well. Whenever a patient leaves off a splint it should be immediately unpadded and thoroughly cleaned; a wood splint is best cleaned with tow dipped in turpentine, then well scrubbed with soap and water and then with some disinfectant—lysol is good for this purpose. Never leave a splint about that has been on a septic case; if it has been well protected it may *look* quite clean and might be taken in haste for a fresh accident case; it only takes a minute or two (and a few snips of your scissors) to take the padding off, and the nurse who removes a splint and neglects to do this would be very seriously to blame if the splint carried infection to a clean case. When the splint has been cleaned it should then be repadded and put away quite ready for use; the nurse who is in charge of the splint cupboard must frequently inspect her stock and see that a suitable collection of the common splints, in various sizes, are always ready; it is very annoying when you have in a fractured right arm to find that all the angular splints are padded for the left arm, and *vice versa;* side splints for the legs (with foot pieces) and angular splints for the arms should always be tied together in pairs.

It is important to watch cases that have been recently put up in splints, as, if the bandages are too tight, the limb may swell and the circulation be interfered with, and, unless attended to, the result might be gangrene of the limb.

The sign that all was not going well would be coldness, swelling and numbness of the extremities, followed by discoloration; these signs must never be neglected, but must

be reported to the doctor. An inexperienced nurse might do a great deal of damage by loosening the bandages with which a recent fracture has been put up, but if the signs of pressure are very urgent, and there is no doctor available, it may be necessary for the senior nurse in charge to attend to the matter. If this should occur she must have some one to help her; her assistant must very carefully raise the limb on the splint, holding it perfectly still while she removes the bandage (or as much of it as appears to be really necessary) and re-applies it firmly and evenly over some absorbent wool; she should have clean bandages ready rolled before she begins, so that she secures the limb again in a good position as rapidly as possible. The doctor must be informed at the earliest opportunity of what has occurred. Any patient with a limb in splints will be liable to cold in the extremities and hot wool can be frequently applied to the toes, etc.

When you are expecting a doctor to apply a splint you should have ready for him on a dressing-waggon plenty of wool and bandages, lint, strapping (and hot strapping tin), web-straps, heel-pads and safety-pins, sand-bags and a bed-cradle; if he is likely to put on a plaster of Paris splint or a croft you will need in addition the plaster (and perhaps some bandages ready spread with dry plaster of Paris), some house-flannel, hot and cold water, some starch bandages, a large pair of scissors and a needle and cotton, also a good supply of old mackintoshes and papers to protect the floor and bed. Plaster of Paris sets more quickly if it is mixed with quite cold water. After a plaster splint has been applied it must be left uncovered until it is thoroughly dry, the extremities being warmly wrapped up and hot bottles applied; if the splint is applied for a fracture below the knee it is generally best to suspend the leg (by bandages or web-

straps) from the top bar of a cradle until it dries, as this allows it to dry underneath as well.

Patients who have to wear a splint for a long time are very liable to "pressure sores" and require much watching, especially little children who cannot tell you if they feel uncomfortable; the heel, or just above the heel, seems to be one of the most dangerous spots, and great care should be taken that the heel-pad is correctly placed and kept in position; but no complaint of pain from a splint wherever it is located should be disregarded,—a little extra padding or a well-adjusted sand-bag to raise the splint may make a great deal of difference to the patient's comfort or discomfort.

Bed-cradles should always be placed over an injured limb to prevent pressure from the bed-clothes, and also should be used for patients after abdominal operations or with abdominal injuries where the weight of the clothes might give pain. When you know that an accident of this kind is coming in, or will be returning from the theatre, try to have the bed-cradle ready by the bed; good nurses do not have to run about to collect cradles, sand-bags, etc., when the patient arrives, if they have been warned what kind of a case is coming and have considered what to prepare for it.

There is one kind of a cradle that you may not have seen used—though in some hospitals it is in constant use—and that is a "Salter's cradle". It is generally made of iron and it is higher than the ordinary cradles, it has a double bar at the top with movable pulley wheels, and from this bar the leg is suspended with web-straps, the foot hanging slightly lower than the knee; patients with a fracture of the lower limb are usually very comfortable when slung up in this way.

If you need an ordinary cradle and cannot obtain a proper one, you will find a wire fender guard, or a band-box with the bottom knocked out, will answer the purpose; some people use a chair as a bed-cradle, but it has rather an untidy effect at that end of the bed, at the same time it is not to be despised when a proper one cannot be obtained, providing that it is well padded with pillows.

Patients who are very weak and inclined to slip down in the bed often find great relief if you fix a board across the foot of the bed and put a firm pillow or two against it for the patient to press his feet against; or another thing that often helps a good deal is to firmly sew a piece of strong bandage to each end of a bolster or pillow, place this bolster or pillow beneath the patient's knees close up to the buttocks and tie the bandages to the head of the bed.

While I am on the subject of "improvised comforts," I may as well mention one that I saw a little while ago in a private house and that struck me as being very useful. I think it was about nine or ten feet of netting (like a hammock) done in a soft woolly cotton; this was passed round the bed rail at the foot of the bed and the two ends firmly sewn together; when this was placed in the patient's hand it made a useful pulley for him to raise himself by, or it could be slipped over his head and extended down his back, and in this way made him a very comfortable support in the form of a bed-rest.

Surgical dressings.—Here, again, it is most difficult to speak shortly and at the same time to give you much help.

The dressings now used for wounds are either "aseptic" or "antiseptic". The word "sepsis" means "putrefaction" or the presence of micro-organisms, and it is against the presence of sepsis that we are constantly waging war.

It is to prevent the entrance of micro-organisms at an operation that we go through all the elaborate processes of sterilising the patient's skin, boiling the instruments, baking the towels upon which the instruments are laid, the doctor's and nurse's overalls, etc., and if we can feel confident that no septic matter has been allowed to get into the wound then *aseptic* dressings—that is to say, dressings that have been purified from all septic matter by being heated to a very high temperature and then kept securely wrapped up until they are used—are much preferred by most present-day surgeons.

But if an operation is done under conditions where it is impossible to ensure perfect surgical cleanliness throughout, or if there is already pus present at an operation, it is then more usual to use antiseptic dressings and trust to the disinfectant with which they are impregnated to overcome the septic condition of the wound. Aseptic dressings take longer to prepare, as they must first be cut to suitable sizes before sterilising (so as to avoid all unnecessary handling afterwards), and then it takes some hours to sterilise them; but on the other hand they are much cheaper than antiseptic dressings.

It is well to remember that iodoform gauze must not be sterilised, as the heat that is required causes the iodoform to decompose. The expense to a hospital (where much surgical work is done) in dressings is very great, and every care must be taken to save waste.

Nurses should try to learn the relative value of different dressings and to use the cheapest when it will do as well.

I am afraid wool is often taken for cleaning-up purposes when tow would do just as well, and wool costs (to hospitals) from eightpence to tenpence per pound, whereas tow costs fourpence or fivepence.

When you are asked to prepare for a dressing try to have *everything* ready before you start; unless something quite different to usual is asked for, it is only bad nurses who have to run away in the middle to fetch things. To do a dressing aseptically it is much better to have two nurses, one to keep her hands perfectly aseptic and the other to hand her everything, but it is quite possible for one to do it all if she prepares everything thoughtfully. The windows near the patient's bed must be closed and the bed screened round; the steriliser must be ready and boiling, and the necessary instruments—scissors, probe, forceps, glass syringe (if required), etc.—boiled and placed, with sterilised forceps, into carbolic lotion, 1 in 40; remember that perchloride lotion stains instruments black and protect them from being thrown into it when possible. Then prepare the patient by placing a dressing mackintosh in position and removing the bandage (the bandage has been rubbing against the blanket so may not be aseptic, but below the bandage the wool should be "surgically clean"); see that your lotion, swabs, receiver, instruments and dressings are all within reach and a sterilised towel where you can get at it easily; then thoroughly wash your hands, using a nail-brush and paying especial attention to cleanliness around the nails; after washing do not wipe your hands on an unsterilised towel, but soak them in some lysol or in perchloride lotion, 1 in 2000; take your sterilised towel and spread it across the patient around the wound and then proceed to do the dressing without touching anything else. If you should be *obliged* to touch any unsterilised thing during the dressing —such as a blanket, etc.—always dip your hands in the lotion again before proceeding. Be very gentle in removing dressings; if they are inclined to "stick" they should be soaked with some lysol, some perchloride lotion, 1 in 4000,

some carbolic lotion, 1 in 60, or some boracic lotion; if you pull them off (besides giving pain) you may do much damage to the process of healing. If the wool you take off is *quite* unsoiled, and you lay it down on your sterilised towel, you can use it again, but *not* if you allow it to lie about on the bed or locker. Many-tailed bandages are much used for cases of abdominal operation or injury and they save the patient (and the nurse) much exertion; but I don't think they are as much used as they might be for applying dressings or fomentations to knees or other parts, where much unnecessary pain may be caused by having to raise the limb to put on a roller bandage at frequent intervals; it is so easy to fix a splint with a bandage above and below the wound or injury, and then with a many-tailed bandage the dressing can be changed without moving the limb at all.

Be very careful when preparing dressings, cutting wool, etc., that your hands are quite clean, and spread a clean towel or sheet over the table before you spread out wool or gauze; all wool must be aired for an hour or so in front of a fire (hung over a clean draw-sheet on the back of a chair) before it is cut up; it always contains a good deal of moisture and it will "fluff out" and be twice as absorbent if it is well aired.

I said that aseptic dressings were cheaper than antiseptic, as commoner material could be used, but they are cheaper in another way too,—as a rule they do not require changing so often. If an operation is done with all proper precautions, the wound sewn up and sterilised dressings applied, it need not be dressed again (provided the patient is doing well, as indicated by the temperature, etc.) for from seven to ten days, when it should be quite healed and ready for the stitches to be taken out; this is the ideal

course that we are always striving after, and when we fail to obtain it, as a rule *some one* is to blame.

In a hospital the dressing of wounds is so much under supervision that it is not easy for you to go far wrong, but as district nurses, as private nurses and in some small hospitals you may have to dress many wounds with very little supervision, so try to observe all you can while in hospital of what to do and the best way to do it.

Remember that a dressing that suits one skin may prove very irritating to another, and may have to be promptly changed; remember that it is essential for wounds to heal up from the bottom, and it is for this reason that we go on so diligently "packing them" with gauze when they are not wounds that can heal up by first intention, as, if we discontinued this, they would probably soon heal over the top and leave a tiresome fistula below. If they seem slow to heal some doctors like them to be bathed or syringed with lotio rubra (red lotion) in a weak solution, as this stimulates the growth of granulation tissue. The granulation tissue must also be watched that it does not grow too high for the skin to cover it; touching with caustic or blue stone may be needed to check this.

Of course you would report to the doctor if you found pus on any dressing that had previously been clean, or pus coming from a different direction to one it had previously come from; also be very careful to notice and report if there is any hardness or swelling around the wound, or any offensive smell from the dressings.

CHAPTER XI.

Accident cases—Burns and scalds—Fractures—Abdominal injuries.

I DON'T wish here to say anything to you on the subject of "First Aid" after the style of the St. John's Ambulance lectures, as I am speaking to you chiefly as nurses in hospital who have doctors at hand, and I only want to tell you of the nursing points to be remembered in settling a few varieties of the many accident cases you will be likely to meet with into bed, and attending to them until the doctor arrives.

Whatever the accident has been you may be sure there has been shock to the system, so that hot bottles and hot blankets will be required to get over the shock; beyond these routine preparations you must try to find out something of the nature of the accident before you can tell what kind of a bed to prepare—whether a hard or a soft one, whether a warm bed, or one in a quiet corner with a subdued light, etc.

Burns and their treatment.—A severe burn or scald is a terrible shock to the system, and even when the burn is not very deep, if it is extensive, and especially if it is on the chest and body, the shock is very great and it requires the most careful nursing to overcome it.

A warm bed near the fire should be got ready directly you

hear a burn is coming in, and you must collect a large supply of whatever dressing your doctor is accustomed to use, with plenty of absorbent wool and bandages, as it is most important to get the burn covered up and the air excluded as rapidly as possible. If there are any large blisters they should be snipped with a clean pair of scissors, but you must take off the clothes *very* gently, and apply some dressing quickly, so that you can give all your attention to getting the patient warm and over the shock. Most doctors like brandy to be given in small doses for the first few hours where there is much shock, and some may order a little tinct. opii to calm the patient if there is much pain. Lint wrung out in carron oil (simply linseed oil with lime water) or lint spread with boracic ointment and vaseline, are safe dressings to apply at once; or if the patient is dirty and the clothes sticking to the burns, it is not at all a bad plan to apply warm boracic fomentations at first. Not long ago I was called to a very bad burn case in a remote village, and I found the local carpenter and undertaker had applied a first dressing of the wadding with which he lined the coffins soaked in the linseed oil that he mixed his paints with; it answered very well and the child made a good recovery. In some hospitals a burn case (when not too collapsed) is promptly given an anæsthetic and the surface of the burns thoroughly cleaned up, and then dressed with picric acid, and the dressing is not removed for some days; sometimes they do very well with this treatment; great care must be taken when picric acid is used as it stains the sheets badly—to say nothing of the nurse's hands.

Burns and scalds are especially dangerous when they extend round the neck and chest. You must never attempt to wash a bad burn or scald case until it has had some hours to recover from the shock it has sustained. They

should only be given milk and barley-water or milk and lime-water in small quantities at first, as vomiting is frequently a very troublesome symptom.

The daily dressing of burns is a very painful process; use plenty of warm boracic lotion to soak the dressing off and be careful not to leave any part uncovered a minute longer than is really necessary; use plenty of wool to keep the parts warm. A nurse who is clever at entertaining children and can draw off their attention from the dressing is most valuable for these cases.

If the patient is burnt in the bend of the elbow, under the knees, or under the fingers, it is generally best to apply a splint to the part from the first; as, in healing, it is very apt to contract up and is then most difficult to straighten again.

Pneumonia or bronchitis are frequent complications of burns or scalds, and septic poisoning is by no means uncommon, especially in cases treated in their own homes. Sometimes boracic baths are ordered for burn cases—arm or leg baths, or sometimes a bath for the whole patient.

There is one special kind of scald that is fairly common among the children of the very poor and that is a scalded throat, frequently caused by the child trying to drink out of the spout of the kettle or the tea-pot. Dangerous symptoms of difficulty in breathing soon come on and tracheotomy may be necessary. While you are waiting for the doctor to arrive, you must put the child in a warm cot with a tent and a steam kettle, and apply hot fomentations to the throat.

Some cases of burns on admission do not look very bad and are fairly comfortable; but in spite of this, if the burns are extensive (and especially if they cover the throat and chest), if the pulse is quick, or if the patient is vomiting,

it is always best to tell the friends to come up in an hour or two to inquire, as these cases collapse so very suddenly, even when they seem fairly well at first.

Fractures.—Simple fractures of the upper limb do not often come into the wards, or if they do it is not necessary to put them on a fracture bed, but all fractures of the lower limbs require a firm hard bed; there is one exception to this rule, and that is that in hospitals where fractured femurs are slung up in Hodgin splints they do very well on the ordinary wire mattress beds, as the fracture is slung well above the mattress, so is not affected by the "sagging" of a soft bed that is so bad for a fracture that you must keep firm and straight.

The greatest care must be taken in putting a fracture case to bed and getting the clothes off, as you cannot tell at first how serious the injury may be, and you may cause a great deal of pain and even convert a simple fracture into a compound one if you are not very deliberate and gentle in handling it. In lifting a patient from the stretcher to the bed one person must attend to the injured limb *only*, keeping it quite straight and seeing that it receives no shakes or jars. In removing the clothes always take them off the uninjured side first; for a fractured leg it is better to unpick the outer seam of the trousers than to risk pulling them down, but remember that many of your patients might find it difficult to replace a spoilt pair of trousers, so unpick the seam with care, unless, of course, there is hæmorrhage going on, in which case it might be worth while to ruin the trousers, even if they were his only pair! Remember in handling any fracture that most of the pain is caused by the two rough edges of the broken bone rubbing together, and if you can prevent this grating by firmly pulling on the lower

fragment (or "using extension" as it is called) you will considerably lessen the pain. In taking the boot off a fractured leg or ankle, unlace it right to the bottom and then hold the ankle just above the boot very firmly to prevent any jar. In lifting or carrying an injured child always, when possible, lift him with the *uninjured* side nearest to you; this is especially important for a child with hip disease, etc., where the pain from any movement is very great.

Having removed the clothes and got the patient on to the bed, the next thing to do is to clean up the fractured limb, and this must be done with the utmost care, having one person to steady the limb while another one washes it; it can then be packed round with a draw-sheet that has a large sand-bag firmly rolled up in each end, the sand-bags lying close against the fracture and supporting it. For a child, or for a restless or delirious patient, it is hardly safe to trust to sand-bags keeping the limb quiet, and it is safer to bandage on a simple splint with plenty of wool over the seat of the fracture until the doctor arrives; for a fracture below the knee an ordinary back splint with a foot piece, for a fracture above the knee two side splints, will answer for the time being.

Before the doctor arrives have ready the kind of splint that he generally prefers, plenty of wool, bandages, strapping and hot strapping tin, web-straps with buckles and heel-pads. If you know that it is a compound fracture coming in you will need in addition some antiseptic lotion, all the usual dressings, and a good-sized mackintosh (as there may be a great deal of hæmorrhage); and have some instruments ready boiled—scissors, probe, dissecting forceps and artery forceps, and a glass syringe.

If there is any bruising with a simple fracture, or much pain, you can leave it free of bandages just where the

fracture is (fixing it above and below) and apply lint soaked in lead and opium lotion, or in spirit lotion, until the doctor comes, and he will very likely order an ice-bag.

Fractured ribs.—As a rule these cases are more comfortable if propped up well with pillows or bed-rest from the first. Before the doctor comes you may give some relief by putting a firm wide bandage round the chest; the doctor will probably strap up the injured side, so you must have ready cut strips of strapping about two inches wide and the hot strapping tin.

If you should be told to strap up a case of fractured ribs, you must remember that the object is to keep the injured rib, or ribs, at rest, and that this is not easy when they are constantly moving with respiration. The strips of strapping should overlap each other and be very evenly applied; they should extend a little way beyond the spinal column behind and a little way beyond the sternum in front, but they must not go right round the chest, as you must remember the lung on the uninjured side has extra work to perform and must not be hampered by anything tight.

The risk of injury to, or inflammation of, the lungs is very great in all cases of injury to the ribs (the natural guard and protection *to* the lungs), so any cough or spitting of blood must be watched for and reported. When you get several fractured ribs in an old person you are fairly safe to be on the right side if you prop them up well in a warm bed by the fire, put up a bed top and start a steam kettle; these things are bound to be needed soon! Sometimes one gets a case of fractured femur *and* fractured ribs, and as the treatment for the two conditions is so different you may be puzzled to know what to do. If the patient is old and shows symptoms of difficulty in breathing, as a rule doctors think it best to pay most attention (anyhow at first) to the frac-

tured ribs, and prop the patient up in spite of this being a bad position for the injured femur.

Fractured pelvis.—This is a very serious injury, and as it is impossible with safety to turn the patients on their side for some time after the accident, if you are warned to prepare a bed for one it is best to have a water-bed made up. The foot of the bed should be raised on blocks to take all strain of the weight of the legs off the pelvis.

Fractured spine.—In this very serious injury too (from which so few patients survive many hours) most doctors like them to be placed on a water-bed from the first. There is generally complete paralysis (more or less according to the position of the fracture), so everything may be passed in the bed. The nurse must also be on the look-out for retention of urine. If the fracture is high up sand-bags are required to support the head and keep it perfectly still.

Head injuries (*fractured skull, concussion of the brain, etc.*).—We always try to choose a quiet bed in a shady corner for these cases. They should be kept flat in bed (not more than one low pillow). There is no hurry to feed them for a few hours after admission if they are unconscious, or unwilling to drink. There is frequently vomiting in these cases, so nothing but diluted milk (in small quantities) should be given at first, or plain water if the patient is thirsty; the vomit must be inspected and if there is any blood in it it must be reported; there may be some cerebral hæmorrhage going on and the blood may have been swallowed while the patient was unconscious. The temperature is often very low and the pulse slow, irregular or intermittent. Before the doctor arrives you can apply an ice-bag to the head or cold cloths; the doctor will probably order an aperient; no stimulants should be given, but efforts made to overcome the shock with hot bottles, etc.

In all cases of injury to the head it is very important (as a help to the doctor to diagnose *what* the injury is) for the nurse to notice whether there is any squint, any twitching or paralysis, etc. If the patient has any fits you must notice particularly how they begin and whether one side is more affected than the other, etc. You must do your best to prevent him from hurting himself while in a fit and place something between his teeth to prevent him from biting his tongue; if you have no gag handy you can use the handle of a hair-brush as that is generally to be found in each locker.

Abdominal injuries.—These are, perhaps, the most difficult to find out the extent of, and the careful observation of a trained nurse is of the greatest help to the doctor. Some patients who have been run over across the abdomen or have had a hard blow in that region, may walk up to the hospital and not seem very bad at first, but they may suddenly collapse afterwards, and die from a rupture of the intestine, or of some organ of the body. All cases of abdominal injury should be kept flat in bed; in severe cases *nothing* must be given to them until the doctor sees them; if the thirst is very great a little ice to suck may do no harm, but it generally increases the thirst.

The temperature may be very low, but if (with a low temperature) you find a rapid, small and "thready" pulse, you may be sure the injury is rather serious. You must watch for vomiting, and notice whether there is any blood in the vomit. You must also observe whether the patient can pass urine and whether there is any blood in the urine, indicating injury to the kidney or bladder. A pillow must be placed under the patient's knees, to take all strain off the abdomen. If the pain in the abdomen is severe you can apply hot flannels to ease it. If you find any swelling

in the abdomen, a good deal of pain, a small quick pulse and a pinched anxious expression on the patient's face, it is very probable that when the doctor arrives he may think it best to operate and repair the rupture if possible, so you will do no harm if you gently wash the abdomen and apply a hot compress of some antiseptic to get the skin as clean as possible in the short time available. If there is an internal rupture every minute that can be saved before the patient is operated upon gives him a better chance of recovery.

Always remember that if a patient is admitted unconscious from head or other injuries, that it is well to examine the abdomen for any bruises or swelling (especially when it is a "run over" case), as there may be severe abdominal injury as well, and the patient be unable to complain of it.

CHAPTER XII.

The preparation of patient and theatre for operations—The nurse's duties at an operation—Hæmorrhage and its treatment—Transfusion and Venesection.

Operations.—The first thing to be considered is the preparation of the patient, and I want you to realise that this should be mental as well as physical. Try to imagine how you would feel if you were about to undergo a serious operation, and even if the operation is not a very serious one you must remember that there is always a certain amount of danger where an anæsthetic is administered, so that you cannot be surprised if patients are sometimes very nervous, and you must do all you can to cheer them up and reassure them; if your patient's friends are far away they are generally grateful if you offer to write to them when the operation is safely over. I always find that patients get on better after operations if they come into hospital a few days beforehand and get accustomed to the ward routine and to the nurses who are going to wait on them, but this cannot always be managed.

If a patient is rushed in for urgent operation never allow the friends to slip away without leaving the address; or, if no friends come up with the patient, be sure and get it from him before he is placed under the anæsthetic, if he is able to give it; it is especially necessary in the case of children

to take the address before the friends leave; the patient may become very bad or even die, and if you are unable to send for the friends in time they will probably be very hurt.

When you know beforehand that a patient is going to have an operation, he should (if possible) be given a bath the night before, if not well enough to be bathed he must be well washed all over in bed; for a patient to appear in the theatre with dirty feet, hair or nails, is a disgrace to any ward, except when it has been necessary to take him straight up to the theatre on admission. Besides the general wash, particular attention must be paid to the part that is to be operated upon; doctors have different ways in which they like their patients prepared for operation, and of course you must find out how the doctor you are working for likes it done and carry out his instructions exactly; in the absence of any special orders the place must first be carefully shaved (if it is at all hairy) and then well washed with hot soap and water—the liquid ether soap is very good for this purpose —using a nail-brush that has been boiled and then kept in antiseptic lotion, then rub well with ether or benzine to remove the skin's natural greasy protection, then again wash thoroughly with carbolic lotion, 1 in 40 (when the doctor prefers a carbolic compress), or with perchloride lotion, 1 in 2000 (if he prefers a perchloride compress); be very careful that nothing that is unsterilised touches the skin. Then apply a compress of lint that has been boiled for at least half an hour and has then been soaked for some time in carbolic lotion, 1 in 60, or perchloride of mercury, 1 in 4000; this must be covered with jaconet or Bilroth's cambric and firmly bandaged on; you must always examine your compress on the morning of the operation, and if it has slipped off at all, re-apply it with all aseptic precautions;

some doctors like the compress to be re-applied a few hours before the operation in any case. Compresses of lysol, bin-iodide of mercury, etc., may be ordered instead of those I have mentioned. It is important that you should not only clean up and compress the spot where you expect the incision will be made, but that a large area around that spot should also be surgically clean.

You must try to realise the fact that the skin is a happy hunting ground for microbes, and, unless you are *very* thorough in your proceedings against them, they only wait for the surgeon to make his incision for them to creep inside the wound, and then your hope of its healing up by first intention vanishes away, and the patient may be condemned to weeks of bed with a suppurating wound, the nurse to a daily dressing (where the one dressing should have lasted for from seven to ten days and then the wound been healed), and the hospital to the expense of maintaining the patient, and the cost of the dressing for this extended period.

In most large hospitals the dressers generally put on the compresses, but where this important work is entrusted to the nurses you must try to prove that you are worthy of the trust by being most careful in all the details of surgical cleanliness; thoroughly scrubbing your hands and soaking them in some antiseptic lotion, etc., and *never* going to put on a compress after you have been attending to, or dressing, a septic case. So much for the preparation of the skin. With regard to the preparation of the patient for an anæsthetic, in the absence of any special directions from the doctor it is usual to give an aperient the night before, and if it does not act freely to give a soap enema on the morning of the operation; where the operation is an abdominal one I think the best results are obtained by giving an aperient (if possible castor oil) *two* nights before the operation and

then a soap enema the evening before the operation and another one on the morning of the operation. For cases of operation on the rectum an enema of boracic lotion should also be given about two hours before the operation. Most doctors like all female patients who are going to have an abdominal operation performed, or an operation in the region of the vagina or uterus, to have a vaginal douche about half an hour before they go to the theatre and the catheter passed immediately before they leave the ward. For other operation cases it is sufficient if they are allowed to pass urine before they are taken from the ward.

Any vomiting when under the anæsthetic is so extremely dangerous (as the vomit may be drawn back into the trachea and choke the patient) that we always try to prevent it by keeping the patient without any food for from four to six hours before the operation; it may not be possible to keep little children or very weakly patients for so long without, but at any rate they should have no solid food for that period.

Where the operations take place in the afternoon the patient is generally given his breakfast at the usual time and then some bovril or beef-tea between nine and ten o'clock; this answers fairly well, but many doctors think the best plan (for the patient's comfort) is to operate between eight and nine in the morning, and then the patient has his usual supper and a drink of something nourishing when he is awake (any time before 5 A.M.), and then the operation comes before he has had time to miss his breakfast very badly. If, by any chance, the patient should obtain food shortly before an operation, it *must* be reported to the doctor. Great care must be taken that the patient is warmly wrapped up to go to the theatre; a loose flannel gown, open all down the back is the most suitable garment,

as there must be nothing tight around the patient to impede his respiration and if the garment is not open down the back much lifting and pulling is necessary to get it out of the way; a large piece of gamgee tissue on the chest is also useful, and little children or very weakly patients should have their legs and arms wrapped up in wool or gamgee tissue loosely bandaged on.

We must now pass on to the things you are expected to get ready for an operation, and these vary so much in different hospitals and for different surgeons that it is very difficult to speak shortly on the subject.

In the first place when you hear that there is going to be an operation you must see that the theatre is comfortably warm; most surgeons like to begin with a temperature of about 65° to 70°. Boiled water in large quantities (hot and cooled down) must be your next thought, and a good supply of antiseptic lotions ready mixed. The steriliser must be boiling ready for the instruments, and a second steriliser for the surgeon and nurse's rubber gloves if they are worn. Then see that you have plenty of sterilised towels, surgeon's and nurse's overalls, sponges or swabs, gauze and dressings (all of these are, of course, prepared and sterilised beforehand), mackintoshes, bandages and safety-pins. Suitable instruments, ligatures and needles must then be laid out; it would be impossible for me to tell you here what is required for the different operations, but you must take every opportunity of learning the names of the instruments and for what special operations the different ones are required. Where a splint is likely to be required you must have several that you think suitable ready, and if you are not sure about it, it is best to ask the surgeon before he begins if what you have prepared will suit his purpose.

All the bowls and dishes that will be required must either

be boiled or else thoroughly washed in 1 in 20 carbolic lotion and afterwards kept on a sterilised towel or sheet; or they can be rinsed all round inside with methylated spirit and a match applied.

For the anæsthetist you must have ready the mouth-piece (or whatever he prefers to use), chloroform, ether and A. C. E. mixture, a drop bottle, a stethoscope, a mouth gag, tongue forceps, some sponges on holders and vaseline; a hypodermic syringe, brandy and strychnine; a clean towel and a porringer.

Before the patient comes to the theatre you must be careful to remove any false teeth, as they might be swallowed if he should struggle under the anæsthetic.

Many operating tables are made to hold hot water, and they should be filled the last thing before the patient is brought in, as every precaution must be used to overcome the shock. The table should be covered with a sterilised blanket and sheet, and the mackintosh (covered with a draw-sheet) placed in position for whatever operation is going to be done; so that, when once the patient is on the table, there is as little moving him about as possible. The transfusion apparatus must be ready at hand, and if there is much hæmorrhage it should be boiled and the saline solution ready mixed.

We now come to consider the nurse's duty in attending an operation, and this, also, varies a great deal in different hospitals and it depends a good deal upon whether there are dressers and students or not; always remember that you are not in the theatre (as a student should be) to watch the operation and learn how to do it, but you are there to help the surgeon by having everything ready *before* he needs it, and handing it to him *when* he needs it. If your hands are not surgically clean you must be very careful not to touch

anything that is sterilised—towels, dressings, etc.; if your hands *are* surgically clean you must be very careful not to touch anything that is *not* sterilised, and if you are obliged to do so you must again wash and carbolise your hands. We generally have as many nurses as we can spare (or as we require) with clean hands and wearing gloves that have been boiled, and one nurse without gloves to wait upon them and to hand everything that is required *except* the sterilised instruments, swabs, dressings, etc. Always have a bowl of lotion ready for the surgeon's hands and replace it as soon as it is soiled. When a tumour, a stone, or any part is to be removed have a dish ready to hand to place it in; if an abscess or a cyst is going to be opened have a dish quite ready to receive the fluid.

Never throw away anything that is removed until you are quite sure it is not wanted. In abdominal cases never throw away sponges, swabs or gauze till you are quite sure they have been counted and that none are left in the abdomen; it is the nurse's business to know how many sponges are being used and that they are all accounted for. Where the nurse is responsible for the instruments she must know exactly how many pairs of forceps she has put out, and that they are all quite correct before the peritoneum is closed up. The present fashion of using sterilised sponges for all operations saves much labour in the theatre and lengthy preparations beforehand; besides the increased safety of the sponges never being used for more than one patient. All towels, overalls, mackintoshes, etc., soiled with blood should be immediately placed to soak in cold water.

While the patient is in the theatre the bed must be freshly made up, two or three hot bottles filled and a hot blanket ready by the fire; a porringer and towel on the

locker and (according to the nature of the case) a cradle, an extra pillow for under the knees, blocks to raise the foot of the bed, sand-bags, a spare mackintosh, etc., all quite ready.

In the theatre there must be no loud talking and the nurses must be most careful never to stand in the surgeon's light, but always to be close at hand and very alert to hand him what he requires.

Hæmorrhage and its treatment.—Sometimes we come across cases where there is hæmorrhage, and it is important to know what to do as there can be no delay in attending to it. Hæmorrhage is generally classed under three headings:—

Primary, when it occurs at the time of the operation or accident.

Recurrent, when it occurs within a few hours (or even a day or so) of the operation or accident.

Secondary, when it occurs some days (or even weeks) after the operation or accident.

The bleeding may be only from a capillary, when it is just a slow oozing; or it may be from a vein, when you will notice it is dark in colour and it flows out in a steady stream, "welling up" from the wound; or it may be from an artery, when it is bright red and spurts out in jets, corresponding to the beats of the heart; this last is the most serious form of hæmorrhage and the most difficult to arrest, and if one of the large arteries are severed the patient may bleed to death in a very few minutes.

In your anatomy and physiology lectures you will learn the course of the main arteries and veins, and where you should put on pressure to stop bleeding in the different parts of the body. As a rule for bleeding from a vein or

from a capillary pressure should be put *on* the bleeding point, but bleeding from an artery is best controlled by putting on pressure *above* the bleeding point, that is to say between it and the heart; and when you have learnt at which points the artery is found near to the surface you will know where it is of most use to apply the pressure.

In all cases of hæmorrhage the patient must be kept lying flat, because the heart beats much more quietly in that position, and so the blood is not forced along the vessels with so much vigour; for the same reason you must avoid giving any stimulant unless it is absolutely necessary (until the bleeding has been securely controlled), as stimulants increase the heart's action and so may increase the hæmorrhage.

If the bleeding is in a limb, the limb must be raised and supported; if it is in the abdomen, the foot of the bed must be raised. It is of the utmost importance that the patient should be kept quiet and not alarmed; always assure him that the bleeding is bound to stop soon if he lies quite quiet and that it is nothing unusual; or, better still, if possible prevent him from seeing that there is any bleeding going on.

When hæmorrhage cannot be stopped by placing the patient in a good position and putting on pressure, the doctor will have, if possible, to find the end of the bleeding vessel and take hold of it with a pair of Spencer Wells' forceps; sometimes it is then sufficient to twist the end of the vessel and the blood will then clot and prevent further bleeding, but the more secure plan is to tie the end with a ligature; so, if you have to send for a doctor for a case of hæmorrhage, you should get ready for him some antiseptic lotion and you should boil some Spencer Wells' forceps, scissors, dissecting forceps, a scalpel (in case he has to cut down to find the bleeding point), some ligatures and the usual dressings.

Recurrent hæmorrhage is generally the result of one of these ligatures having slipped off the end of the vessel it has been holding. Secondary hæmorrhage may occur in cases where the wound is not healing well and sloughs are present, which gradually spread till they eat into some vessel and cause hæmorrhage; so you must never feel that a patient is safe from hæmorrhage while there is an unhealthy sloughing condition of the wound. You all know that blood, when it is exposed to the air, coagulates and forms a clot, and this natural process is sometimes sufficient to stop bleeding.

The application of ice is also a useful means of stopping bleeding. In cases of severe hæmorrhage the patient becomes very restless and cold and is covered with a cold perspiration, the pulse is feeble and the respiration shallow or "sighing". Besides doing all you can to stop the hæmorrhage, you must try to overcome the shock to the patient with hot bottles, blankets, etc.

No nurse can be too careful in watching for hæmorrhage after an accident or an operation, as it is so much easier to check if promptly discovered; for this reason you should arrange the bed-clothes (especially for an amputation case) so that you can easily look at the dressing without disturbing the patient; and no operation is so trivial that there is no danger from hæmorrhage; even cases that are frequently done in the out-patient department and then sent home (such as cases of circumcision) sometimes bleed a great deal.

It is in cases of internal hæmorrhage that the most difficulty in diagnosis and also in treatment arises. If a patient becomes very pallid, cold and clammy, temperature low, pulse quick and feeble, and the patient restless and uncomfortable, you have good ground to suspect that internal hæmorrhage may be going on and the sooner you obtain help

from a doctor the better, in the meantime doing your best to keep the patient calm and quiet, giving him ice to suck and raising the foot of the bed on blocks.

Where there has been much hæmorrhage and the patient is very collapsed, the doctor may wish to transfuse—that is to say, to inject some fluid into a vein to replace some of the blood that has been lost.

Transfusion.—For this the doctor will require from two to six pints of the saline solution, one drachm of salt to one pint of boiled water at a temperature of about 102°. He will also need a scalpel, scissors, dissecting forceps and an aneurism needle, some ligatures (also an ordinary surgical needle and sutures), a bandage (to tie firmly round the arm), a mackintosh and a sterilised towel and the usual antiseptic lotions and dressings.

The fluid is injected by means of a small canula (or hollow needle) fixed on to a piece of tubing with a glass funnel at the end of it—some doctors fix the canula and tubing on to a Higginson's syringe. Transfusion is generally done in the bend of the elbow.

Venesection (*or bleeding*) is done with exactly the opposite object to transfusion, *viz.* to remove some superfluous blood and so reduce pressure. Of course it used to be done as a matter of routine for any one who was bold enough to consult a doctor (whether he was suffering from bronchitis or dyspepsia) in olden days, but now you may easily go through your training in hospital and never see a single case of venesection; but there *are* cases that seem to benefit a good deal by it, especially such cases as cerebral hæmorrhage or apoplexy, and I have seen a very bad pneumonia case much improved by it.

You will require to prepare the same things for the doctor as for transfusion, but of course you do not require the canula, etc., and the saline solution. It is well to have a little brandy or some stimulant ready mixed in case the patient feels faint with the loss of blood, and you must arrange the bed-clothes so that he does not see what is going on.

CHAPTER XIII.

The after care of operation cases—Abdominal sections, etc.

When a patient is brought back from the theatre to his bed he should not be left alone until he has recovered consciousness. His head should be kept low and you must do all you can to get him warm. Watch his pulse and respiration carefully; the temperature will probably be very low and few doctors care to have it taken until a few hours have elapsed since the operation. After a severe operation a stimulating enema is often ordered; for this purpose you can give a saline injection (ten ounces of the usual saline solution with, sometimes, one ounce of brandy); or two to four ounces of hot port wine; or one ounce of brandy with one ounce of hot water; any of these can be given directly the patient is put back to bed and before he recovers consciousness; they are best retained if they are given with a soft catheter and a glass funnel (as I described the nutrient enemata should be given) and if the bed is raised at the foot on blocks.

The sickness after an anæsthetic is often very troublesome, even when the operation is only a trivial one, and it is useless trying to feed the patient by mouth until the vomiting ceases, but as soon as the vomiting stops the patient (after a slight operation) can be fed with milk and water or milk and soda water and in a day or two can return to his ordinary diet; but after abdominal operations, rectal

operations, mouth and throat operations, and some head and eye operations, much more thought and care must be expended on the feeding.

I think we had better go shortly through the special points to be remembered with reference to a *few* of the operation cases you will have to nurse; we will begin with one in which good nursing is very essential if the operation is to be a success.

Abdominal Section.—Of course this is done for so many different things—hernias, appendicitis, gallstones, intestinal obstruction, kidney disease, ovarian tumours, hysterectomy, etc., and the nursing varies a little according to the exact nature of the case, so that I can only try to give you a general idea of what you are expected to do for all cases of abdominal section.

The patient is placed on the bed, which has been made up with clean linen (as it will be some days at least before it would be wise to change the under sheet unless you are obliged), the head is kept low, no pillow until the patient is conscious enough to ask for it, and then only one low one; a firm pillow is placed under the knees, so that there may be no dragging on the abdominal muscles by the weight of the legs; the patient is then covered up warmly, with a cradle to keep the weight of the bed-clothes off the abdomen. If there has been much hæmorrhage the foot of the bed must be raised on blocks, and some doctors like this done in any case of abdominal section. Some doctors feed their cases of abdominal section almost entirely by nutrient enemata for the first few days, others have very varying wishes as to when the feeding should begin, the quantity, etc.; of course whatever is ordered you must carry out *exactly*, but if it is left in your hands you are fairly safe to give no drinks for

the first twelve hours, but if the patient complains of thirst the mouth may be frequently washed out with hot water and the lips moistened with glycerine, borax and lemon; after twelve hours you can begin by giving half an ounce of hot water every hour; after three of these hourly feeds you can increase it to one ounce of hot water every hour; if all goes well, after eighteen hours you can give half an ounce of milk with half an ounce of water (or barley water) every hour; after twenty-four hours from the operation it should be sufficient to feed every two hours, and you can from that time *gradually* increase the feeds until the patient is taking four or five ounces every two hours; undiluted milk is too heavy, milk and barley water generally suit, but if patients particularly wish for a little tea or coffee it is generally allowed them; never wake a patient up for a feed unless you have special instructions to do so. It is not usual to proceed beyond this liquid diet until the bowels have been freely opened, which is generally accomplished with the help of a soap enema on the third or fourth day after the operation; after this the diet can be gradually increased—beef tea, Benger's food, custard, milk pudding, bread and milk, bread and butter (without crusts), fish, etc., being the usual sequence in which it is increased. You must be careful to notice and report whether the patient is able to pass urine naturally; if not, most doctors like to have the catheter passed about six hours after the operation and then at intervals of eight hours; in cases of hysterectomy it is usual to pass the catheter four hours after the operation and then at intervals of six hours for the first few days if necessary.

As a rule, when the patient has been properly prepared for an operation, the bowels will not be opened for some days, but you must notice carefully whether the patient is

able to pass flatus per rectum, as the doctor always likes to be informed on this point, so that he may be assured that the bowel passage is clear and unobstructed. If the patient is unable to pass flatus freely, the rectal tube should be passed about eight or nine inches up the rectum; it often gives relief and may be used every four hours if there is discomfort from flatulence; if it does not relieve, the doctor may order a turpentine enema to be given; or he may order a rectal wash-out of warm water; this is best given with a long rectal tube and a funnel fixed on to the end of it; from two to ten pints may be ordered; the funnel held up some feet above the level of the bed while the fluid is running in, and when it causes too much discomfort being lowered to a vessel on the floor while it flows out again.

The temperature, pulse and respiration of abdominal operation cases should always be taken carefully every four hours and any sudden variation should be at once reported; a sudden rise of temperature may indicate that some discharge is collecting and cannot escape, and the removal of a stitch may (if done in time) prevent further mischief; on the other hand a sudden fall of temperature or a sudden quickening of the pulse rate may mean internal hæmorrhage; thirst and restlessness, pallor and cold perspiration are also signs of hæmorrhage that must be watched for and reported.

The thirst complained of directly after an operation is often accounted for by the fluid that was lost (in bleeding) at the operation, and great relief is sometimes given by injecting half a pint of hot water per rectum.

Sometimes (especially in children) an alarming rise of temperature a few days after an operation will all subside when the bowels are relieved by an enema, and it is often well to try this remedy before making up your mind that sup-

puration is the cause. Hiccough after an abdominal operation is sometimes very troublesome, and it is a bad symptom. Most abdominal cases are kept lying on their backs until the stitches are taken out, or for about eight days ; kidney cases are an exception to this rule, as they are sometimes more comfortable when placed on their side from the first ; when they are first allowed to turn on their side they should be propped over with a pillow to support their back and should not be allowed to turn over without assistance. If possible it is much better to have two nurses to make the bed and to attend to the patient's back, as it can then be done with much less exertion to the patient, and the back *must* be carefully attended to from the day after the operation. Patients lying flat on their back often complain of severe backache, and this can sometimes be relieved by placing a small flat cushion under the small of the back, or a rubber bottle inflated with air may be sufficient.

If vomiting persists after the effects of the anæsthetic should have passed off it is a very grave symptom and must be most carefully watched ; and if, at any hour of the day or night, the vomit should become fæcal in character—that is to say look and smell like fæces—the surgeon should be at once informed, as it is then evident that there is some obstruction in the course of the bowel.

Before leaving the subject of abdominal operation cases I should like to add a word or two about the observation of some of these cases when they are waiting for operation. You all know that people have attacks of *appendicitis* and recover (at any rate for a time) without operation at all ; but there is always a risk that a patient with disease of the appendix may from some cause or other get some suppuration in that region (it may be even from a blow) and then it may be followed by perforation of the appendix, and that would

very soon be followed by peritonitis and death, unless an operation could be very promptly undertaken,—of course an operation for a patient when this has occurred is a far more serious thing than a straightforward operation on the appendix itself, and it is a most difficult thing for the doctor to decide how long it is safe to leave a case of this kind to medical treatment, without risk that it may then be too late to operate with safety. I only tell you this to show you how *very* important it is for you to watch the case with intelligence and report any change in the symptoms and signs, especially with regard to the temperature and pulse, so that the doctor may be able to judge whether an operation is essential, or whether the symptoms will subside with rest and medical treatment.

Hernias.—These are also cases that require watching when they are waiting for operation; the most of you know that a hernia is caused by part of the contents of the abdomen (generally the bowel) forcing its way through the abdominal wall and causing a swelling. A hernia may be umbilical, inguinal or femoral, according to its position on the body; a hernia is called a "reducible" one if it can be pushed back, but it is sometimes "irreducible" and then there is always a danger that it may become "strangulated," and when that happens, as nothing can pass the strangulation or constriction, the danger is great and the sooner the patient is operated upon the better chance there is of his recovering. I am telling you this because sometimes a patient may be in hospital waiting for an operation for an ordinary hernia, and it may suddenly become strangulated, and it is your duty to observe the symptoms and report them at once if they should occur.

The symptoms that a hernia has become strangulated are pain, constipation, vomiting and a feeble rapid pulse; the

vomit must be carefully observed and saved, as before very long it becomes fæcal in character.

Hernias are very common, and many of the poorer class of people take them very much as a matter of course, and will often never mention the fact that they have one when they come in for some other complaint; but I think I warned you that in washing a new patient you should always report anything of that kind that you might find. I remember once when I was a night sister coming across the case of an old man with a fractured femur and bad bronchitis, who suddenly developed all the bad symptoms (noted above) in the middle of the night—pain, vomiting, rapid pulse, etc. I happened to turn down the bed-clothes just to see if there was any distention of the abdomen and to apply a hot fomentation to ease his pain before sending for the doctor, when I found a fairly large hernia which was most evidently strangulated and had to be operated upon at once; the doctors thought that probably the man's severe cough had caused it to become strangulated. The old man had had the hernia for years, but it had never troubled him before, and he "didn't think it worth mentioning," but of course his nurse should have reported it.

To pass on to the nursing of other special operation cases and the things to be remembered.

Rectal cases and cases of hæmorrhoids.—These cases require especial care beforehand to ensure the bowel being thoroughly clean and clear; it is usual to give them some aperient medicine for either two or three nights beforehand, the usual soap enema on the morning of the operation, and also a pint or more of boracic lotion is injected about two hours before the operation. The patients are generally kept on low diet for some days after the operation, and the surgeon should be asked on which day he wishes the bowels to be relieved.

The rectum is often packed with gauze, and the patient must be discouraged if he requests the bed-pan; very often a morphia suppository is given at the time of the operation, and this helps to keep the bowels quiet; if, however, there should be an action of the bowels, you may be required to remove the packing; cleanse as thoroughly as you can with a syringe and boracic lotion and then repack with gauze, but it is better to find out what the doctor wishes on this point. You must be careful to notice whether the patient can pass urine, as sometimes these patients suffer from retention of urine.

Ruptured perineum.—These cases require a good deal of care if they are to be a success. The patient must be kept very still and all straining avoided; it is generally best to tie the knees together with a soft bandage for the first few days; she should have a douche shortly before the operation, the bowel must be thoroughly cleared and the catheter must be passed just before she goes to the theatre. Many doctors prefer that these cases should not be allowed to pass urine for the first few days, and they should have the catheter passed every six or eight hours. Great care must be taken to keep the stitches clean, and they should be very gently bathed or syringed with boracic lotion every time the patient passes urine or has the catheter passed.

When the doctor wishes that the bowels should be opened (usually not for some days after the operation) an olive oil enema is generally given to save straining as much as possible.

Amputation.—Of course hæmorrhage is the principal thing to watch for in these cases where all the vessels have been divided. The stump must be propped up on a pillow and should be steadied there by a bandage to prevent "starting"; the bed-clothes must be arranged so that you can

easily watch it without disturbing the patient. If there is great collapse a saline injection may prove useful, but most surgeons prefer that their amputation cases should not be more stimulated than is essential for the first few hours, as it increases the risk of hæmorrhage.

Excision of breast.—Here, again, hæmorrhage is *the* danger to watch for. In preparing a patient for this operation the axilla should always be thoroughly cleansed and shaved; sometimes you know beforehand that there are glands in the axilla to be removed, but sometimes it is only during the course of the operation that it is found necessary to remove them, so it is always safer to have it ready for operation if required. The arm should be bandaged to the side or else placed in a sling, and the patient on no account be allowed to use it at all; a pillow should be placed under the arm to support it.

Excision of tongue (*and other operations on the mouth or jaw*).—These cases require much attention and careful watching. The patient must be kept very quiet, and he must not speak or attempt to, so the nurse must try to anticipate everything that he wants; if he can write a slate and pencil must always be at hand. He may be propped up, or placed in whichever position is most comfortable to him. His mouth must be very frequently washed out, or (if he cannot manage this) syringed out, with whatever mouth-wash the doctor orders; besides keeping the mouth clean generally, especial care must be taken to keep the teeth clean with glycerine and borax, and this cleansing must always be attended to after giving any food. If much of the tongue has been removed the patient will be unable to swallow at first, and nutrient enemata or nasal feeding will be ordered. Many of these cases can drink from a feeder with four or five inches of rubber tubing fixed on

to the spout, when they cannot drink from a mug or feeder alone.

Great care must be taken to keep the patient out of any draught, and the room must be kept at an even, warm temperature, as these patients are very liable to get pneumonia unless every care is taken ; most doctors like them to have a tent and a steam kettle.

Cleft palate and hare-lip.—When possible it is much better for these children to be in hospital for some days before the operation, so that they may be quite at home with the nurses and have confidence in them, as any crying or trying to speak after the operation may cause the stitches to break down. The child must be fed at first with a spoon and the food slowly trickled in at one side of the mouth. The food must be carefully strained, so that there are no little bits to catch on the stitches. I always give a child some plain water after his milk or beef-tea to wash any remains away, and some doctors like the mouth to be syringed (round the stitches) with boracic lotion after each feed.

CHAPTER XIV.

Tracheotomy and intubation cases.

Tracheotomy.—In speaking here of the nursing of tracheotomy cases we will imagine that the tracheotomy has been performed for a case of diphtheria; because if you can nurse a case of diphtheria tracheotomy you can certainly nurse a case where tracheotomy has been done for any other reason, and the nursing will be practically the same, only that the danger from suffocation will probably not be so great, and the precautions with regard to personal infection may be omitted.

In hospitals we always put on special nurses for tracheotomy cases, as it is essential that they should have undivided attention, at any rate for the first few days; it should be considered an honour to be chosen for this duty, as (to be a good tracheotomy special) you must possess all the qualities of a good nurse; and, more especially, the quality of being very calm and resourceful in emergencies.

While the patient is in the theatre, or before he goes there, the cot must be prepared; many doctors like these cases to have a tent and a steam kettle from the first; it is a good plan if you can have the cot drawn up to the ward fire, as you can then boil your own water for steam kettle, and for cleaning the tube, etc.

On the locker everything that you may require must be collected and kept strictly for the use of your patient alone.

You will need scissors, probe, dilators and pilot; three porringers, a bottle of boracic lotion, some soda bicarbonate, vaseline, a good supply of lint, tapes and antiseptic gauze, a spatula, and a bowl of perchloride of mercury with a nail-brush for your hands.

Feathers used to be considered a necessary part of the equipment; there are objections to using them, but on the other hand they are *sometimes* a help, so perhaps they should be added to the list of what you must have at hand.

As a rule when a patient is put back to bed after tracheotomy has been performed, he is so much relieved by the operation, and so exhausted by his previous struggles for breath, that he will probably sleep for two or three hours; but he must not be left on any account for a moment (even if sleeping soundly), as at any time he may have a paroxysm of difficult breathing, and then might pull the tube out. If a little child is much inclined to put its hands up to the tube it is sometimes well to apply a very light splint (corrugated paper padded with wool answers the purpose), which protrudes beyond the finger tips, and so prevents it from taking hold of the tube, but on no account should the child's hands be tied in any way, and a watchful nurse will generally be able to manage without any restraint at all.

If the patient is inclined to sleep at first there is no need to hurry about feeding him (if he is a fairly well-nourished child) until he has become a little accustomed to the tube; a tracheotomy case can generally drink from a feeder if the fluid is given very slowly; milk or milk with beaten-up eggs are usually given, and very often a little brandy is added; sometimes a case may have some difficulty in swallowing, and you may find that thickened foods go down more easily than milk alone.

You must always watch for (and report at once) the re-

turn of any milk through the nose or through the tube, as this is often the first sign of diphtheritic paralysis.

Diphtheria patients must be kept *very* quiet, lying flat or very gradually propped up on pillows; on no account must they be allowed to sit up suddenly, or to be agitated by visits from their friends, as they are very liable to sudden heart failure.

With regard to the care of the tube, you must learn to remove the inner tube and to clean it rapidly without disturbing the patient, but until he becomes used to the process it is better to have two people present, so that one can steady and reassure the patient while the other is cleaning the tube. Have everything ready before you begin; some very hot water in one porringer with a little bicarbonate of soda dissolved in it, some narrow strips of lint ready cut to push through the tube with your probe, another porringer with some warm boracic lotion, your vaseline quite handy, and a clean lint "bib" ready spread with vaseline or boracic ointment to tuck round the outer tube.

The outer tube must be firmly held in position with the left hand, while the inner tube is gently pulled out with the right; clean it as quickly as possible in the bicarbonate of soda, then rinse it well in the boracic lotion and smear it with a little vaseline before putting it in again; hold the outer tube very steady as you replace it, so as to irritate the throat as little as possible, or you will provoke another cough, which may again block the tube up. At first the tube will probably require cleaning about every two hours, but it may need it much more frequently if there is a good deal of loose membrane and mucus about; and if you are skilful in changing the tube without disturbing the patient, it is better to do it as often as it becomes at all blocked, rather than to allow the "blockage" to be drawn back into

the trachea, and rather than "prodding" through the tube with a feather (as used to be the custom), as there is a certain risk that you may leave a fragment of the feather in the trachea. Great care must be taken to keep it very clean all round the tube, bathing frequently with boracic lotion, and keeping a clean bib of lint in position and a thin piece of antiseptic gauze lightly tucked (not fastened) over the tube. If the tapes holding the outer tube in position become soiled they must be changed, but sometimes the doctor prefers to do this himself.

If by any means the tube should be pulled or coughed out, you must keep *very* calm, as the next few minutes and what you do in them may mean life or death to your patient; you must send for help instantly, but do not leave your patient to go yourself until you have tried what you can do for him.

If the tracheotomy has been done for a few days or longer, you should put the outer tube on the pilot, and it will probably slide in quite easily, and you must then quickly withdraw the pilot while you hold the tube firmly in position with your left hand, until you can fasten the tapes. But if the tube has only been in for a few hours you may find it difficult to replace, as the hole would contract; in that case instead of struggling with the tube, it is better to place the dilators—which must *always* be kept on the locker—into the trachea, and gently dilate with them until help arrives. If by any chance you should be left with no dilators, you might use a common hair-pin by nipping it together before you insert it, and then allowing it to expand.

If you get into difficulties over the tube with a little child, it is better to lift him gently on to your lap; the novelty of the position will prevent him from thinking so much about the difficulty of breathing, and if you let him lie with the

head hanging backwards over your knee, he may breathe quite comfortably for a time without the tube or any other assistance.

It is a very anxious time for the nurse when the doctor takes out the tube and leaves it out; at any time during the next twenty-four hours or so it may be necessary to replace it hastily. The nurse must do her utmost to keep the patient calm, and to divert his attention from the absence of the tube, as every now and then the breathing may become difficult, and if the patient is nervous and excited the difficulty is greatly exaggerated; but a new toy or an interesting story may tide over these difficult times. When the tube is first left out you must very carefully watch the patient's colour, especially in the extremities, fingers, ears, etc., and send for help if you notice that they are becoming blue, as you will know that he is not taking in sufficient oxygen, and may require the tube to be replaced at any minute.

A nurse must never think that *all* danger is past in a case of tracheotomy for diphtheria when the tube is out, and the patient appears able to breathe comfortably without it, as the poison of diphtheria is very virulent in the blood, and may affect the heart a great deal. For this reason most doctors keep their diphtheria patients lying down and very quiet for some time after all the difficulty in breathing has passed away.

Nurses who are on duty with a diphtheria case must be *very* careful to avoid getting splashed with any mucus or membrane that is coughed up, and if they do happen to be so splashed they must immediately wash it away with some disinfectant. They must be most careful not to put their hands up to their mouth or eyes when they have been attending to the tube or to the patient. They must never

take any food without first soaking their hands in some disinfectant and then scrubbing them with soap and water, and it is a good plan if they can gargle their throat with some Condy's fluid before each meal. They should be careful to go out of doors, if possible, for a short time every day, and never to go on duty in the morning without first taking some food.

Diphtheria is such an alarming illness to have that it is quite worth while to take every precaution to avoid it, and a nurse should always report the fact if she feels any soreness in her throat while she is nursing a case; but as a matter of fact nurses very rarely contract it from a patient if they are in good health and are reasonably careful.

Sometimes the mucus and membrane in a diphtheria case is of a very "sticky" description, and then you may find that it gives the patient great relief to spray into the tube with a "Seigal's spray"; some doctors like a mild disinfectant (such as boracic lotion) to be used in the spray, or plain water with a little bicarbonate of soda is very useful for this purpose.

The patient must be fed up with nourishing food of an easily digestible nature; the bowels must be kept regularly open (every day), and the urine must be frequently tested, and the presence of albumen reported upon.

Intubation.—In some hospitals this is now done more frequently than tracheotomy in cases of diphtheria, and it often helps the patient to tide over a few days of difficulty until the antitoxine (which is now given to nearly every case of diphtheria as soon as it comes under observation) has had time to act. In intubation the tube is introduced down the throat, instead of through an opening made in the neck, and some strong pieces of silk are attached to it (so

that it may not escape downwards) and are fastened to the patient's cheek with a piece of strapping.

Before an intubation is undertaken the doctor always likes to have the tracheotomy instruments all ready, as it may be necessary to do tracheotomy in a hurry if he fails to get the intubation tube in position; it is also a rule to have a second intubation tube ready placed on the introducer and always kept on the patient's locker as long as he has a tube in, in case his tube should be coughed or pulled out.

No anæsthetic is given for an intubation; the most convenient position is for the doctor to sit down on a chair and a nurse to sit opposite to him with the child sitting up on her knee with its back against her chest; the same nurse should hold its hands firmly down on its knees, and another nurse should hold its head.

After intubation the child requires just as careful watching as a tracheotomy case, as he may either cough the tube out or pull it out by the strings, and you are then far more helpless than with a tracheotomy tube, as you cannot well replace it without medical assistance.

The doctors for whom I have nursed intubation cases always had them fed with the nasal tube for the first few days, but I believe some allow them to swallow their feeds from a feeder if they can do so; sometimes they can drink far more easily if you allow them to hang their head over the side of the bed (backwards) in an "upside down" position.

Antitoxine.—Many of you have probably seen antitoxine injected in cases of diphtheria, and perhaps other serums injected for other diseases as well, but you may be called upon to give the antitoxine yourself. The doctor will order how much is to be given, and you generally have a special

syringe to give it with, but if not an exploring syringe will answer the purpose fairly well; but it may not be large enough to hold the dose ordered, so that a proper syringe is far better.

Great care must be taken that the needle is properly sterilised and the place you are going to inject into also carefully cleaned with ether (or the liquid ether soap) and then with some antiseptic lotion; it is usual to inject it into the back just below the scapula, or else into the flank; you must raise a piece of flesh between your left thumb and forefinger just as you would do for an injection of strychnine or morphia; the injection is less painful if the needle is inserted fairly deeply beneath the skin. The puncture should be dressed with a little gauze and collodion. Sometimes a rash appears some days after an injection of antitoxine which is very like the rash of scarlet fever.

There is a great pleasure when a child who has come in breathing so badly that you think it is bound to be a tracheotomy before many hours are past, has an injection of antitoxine, and instead of the breathing becoming worse it gradually becomes better, until the child is able to sink into a quiet sleep; but we do not often get them into general hospitals in time to see this pleasing result; they are generally only admitted if the symptoms are so urgent as to require immediate operation and to make it unsafe to send them on to a fever hospital.

I don't think I need take up your time by speaking of any other special operation cases; of course there are a great many that I have said nothing at all about, but the ones I have chosen are those which I think present little "differences" in their treatment to what is required for the ordinary run of operation cases, and if you can nurse these well you are not likely to be asked to do anything very

different for others, or at any rate if you are expected to, the surgeon will be willing to explain what he requires done.

The skilled handling of operation cases can only be learnt by the bedside; much unnecessary pain may be given, and much harm may be done, in hip cases, in cases of excision of the knee, etc., by careless handling when you are making their beds, etc.; so you must use every endeavour to learn while you are in the wards the best, the quickest and the most comfortable way of attending to the wants of these patients.

CHAPTER XV.

Special points to be remembered in the nursing care of some medical cases.

Gastric ulcer, or ulcer of the stomach, is a very common disease, especially among young women. The chief symptom is pain which comes on an hour or two after taking food; vomiting is frequent and very often blood is vomited, this is called "hæmatemesis"; it may be dark coloured and is then described as "coffee ground," or sometimes it happens that the ulcer has eaten through the coat of an artery and then a large quantity of bright-coloured blood is vomited. Some of the escaping blood also finds its way out through the intestine and the motions appear black, often described by patients as "like tar," more correctly called "melæna".

The patient must be kept lying very flat in bed and nothing given by mouth except small feeds of milk and barley water or milk and lime water. If there is any hæmatemesis most doctors order nothing but nutrient enemata to be given, so as to give the stomach a complete rest, and sometimes this treatment has to be continued for some weeks; to ensure the nutrients being retained for so long the greatest care must be taken in giving them that they are carefully made, and given at the right temperature, and the bowel should be washed out with plain warm

water once in every twenty-four hours. Sometimes sips of water are allowed when the patients are on rectal feeds, and if so the water should first be boiled and then cooled down and kept covered up and free from dust.

Aperient medicines must never be given except when especially ordered by the doctor ; as a rule the daily wash-out of the bowel will be sufficient. Ice is sometimes ordered for the patient to suck, and some doctors order ice bags or ice poultices to the abdomen if there is much hæmorrhage.

The temperature and (especially) the pulse should be taken at least every four hours, while the patient is acutely ill, and any sudden changes should be reported, as the chief danger is from perforation or from internal hæmorrhage, and if that should occur an operation may be necessary without any loss of time.

Appendicitis (*when treated medically*).—These cases must also be kept lying very still in bed, and not allowed to strain at all. Hot fomentations are generally ordered, and frequently the doctor orders opium or morphia to be given. Only small feeds of milk and barley water should be given. The attack generally passes off in four or five days unless an abscess forms, and then the case becomes a surgical one. The temperature and pulse must be watched with care and intelligence.

Intussusception.—This trouble sometimes occurs in little children. I have seen as many as three cases brought in in two days, but on the other hand you may be in hospital for some months and never see a case. It is a form of intestinal obstruction and is caused by one piece of intestine slipping inside the piece below it. When this happens the child rapidly becomes very ill ; it has severe pain and vomiting, it passes some blood and mucus and then has constipation,

with painful straining or "tenesmus"; the pulse is small and weak, the eyes rapidly become very sunken and there is great collapse.

When you hear that a case of intussusception is coming in, you must get a warm cot ready by the fire, hot bottles and hot blankets, also hot wool to wrap the child in, bandaging it lightly round its arms and legs, and every effort must be made to get over the collapse.

The usual treatment is for the doctor to inject air, or warm sterilised water, into the rectum to try to force back the piece of intestine that has slipped down.

I should have said before that a tumour, generally described as "sausage shaped," can be felt in the abdomen, and if this does not disappear with the injection an operation is generally necessary at once to reduce it.

Nephritis, or Bright's disease.—If two nurses were asked to describe the urine they would expect to see from a case of nephritis, one of them might say that it would be scanty in quantity and high coloured, and the other might say that the quantity would be abnormally large and the colour very pale—and they might both be right, as the former would be thinking of a case of acute nephritis and the latter of a case of chronic nephritis. To begin with the most common :—

Chronic nephritis.—This is sometimes due to lead poisoning (painters are very subject to it), sometimes to a neglected chill, sometimes to alcoholism.

Headache, vomiting, anæmia and general weakness are the chief symptoms complained of. It is the nurse's duty to see that the patient is warmly clothed in flannel, with a blanket next to him, and that he is kept warm in bed and out of draughts. The diet must be a light one without meat, beef-tea, etc. The doctor generally orders medicines

to keep the bowels well opened and to promote the action of skin, etc., so the nurse must notice whether the patient perspires freely. The urine must be saved and measured and a daily specimen put up to be tested, so that you may be able to inform the doctor whether the albumen which it contains is increasing or decreasing.

Acute nephritis.—This is generally brought on by exposure to wet or cold, or it sometimes follows acute fevers (scarlet fever, diphtheria, etc.), or it is sometimes found in pregnant women; it is always a serious disease, and in the latter cases it is an especially serious complication. Very little urine is passed—in severe cases it may be altogether suppressed. There is generally great pain in the loins and dropsy soon appears.

The urine is found to contain albumen, and sometimes also blood. If neglected it may go on to convulsions and end in coma. The nurse must see that the patient is kept warm in bed (free from draughts) and that he is clothed in flannels and lying in blankets. He must be persuaded to drink large quantities of fluids; barley water or imperial drink, besides his milk diet. The bowels must be kept freely open every day. Poultices across the loins or dry cupping may be ordered. Where there is much dropsy, or where there is difficulty in getting the skin to act freely, a vapour bath or a hot-air bath is often ordered, or pilocarpine may be injected to promote perspiration.

If convulsions come on, occasionally venesection is performed.

Laryngitis, or inflammation of the mucous membrane of the larynx (the old name of croup applies to some forms of laryngitis).—This is sometimes caused by exposure to wet or cold; sometimes it comes as a complication of other diseases, such as phthisis, cancer, measles, etc.; sometimes it is

the result of some irritating vapour inhaled, or from some foreign body lodged in the larynx.

The patient must be kept in a warm room and protected from draughts ; a steam kettle should be used and inhalations of tinct. benzoin co. (or other drugs) are often ordered. Hot fomentations, or flannels wrung out in hot vinegar, sometimes give much relief. The diet is generally liquid during an acute attack, but the patient requires plenty of nourishment. Any blueness of the extremities (fingers, ears, etc.) should be reported in good time, or a quick increase in the rate of pulse and respiration, as tracheotomy may rapidly become necessary.

Bronchitis.—Again a warm temperature is required and a steam kettle if the case is a severe one. Hot linseed poultices to the chest are frequently ordered, or the application of a new remedy (from America) called "Antiphlogistine," which is now used a good deal and appears to give much relief. The diet must be light and easy to digest, but it is not generally restricted to nothing but fluids ; stimulants are frequently ordered and stimulating medicines. The nurse is expected to notice how much expectoration there is, as the medicines are given to promote expectoration and may be changed for others if they are not successful ; the expectoration is of a frothy character. The bowels should be kept freely open, with aperients if necessary. Bronchitis frequently appears as a complication of other diseases, Bright's disease, measles, influenza, typhoid fever, etc. ; it is most common in old people and in little children.

The patient must be carefully propped up in bed, and should have a cotton-wool jacket on—especially when the poultices are first omitted.

Pneumonia, or inflammation of the lungs.—These cases require very careful nursing and handling, and there are few

diseases in which good nursing makes so much difference. The patients must be kept warmly wrapped up; it used to be the custom to keep them in a very warm temperature, but recently excellent results have been obtained when they have been treated in the open air. If the patient can lie down comfortably he should be allowed to do so; but most pneumonia patients are more comfortable when propped up with several pillows; if he prefers to lie down he must not be allowed to lie flat on his back for long together, but must be gently turned first on one side and then on the other. The amount of expectoration must be noted; in a typical case the sputum is of a rusty brown colour. A four hour chart must be kept and carefully watched; if the temperature goes very high some doctors order cold sponging, or sometimes ice poultices applied to the affected part of the lung have a good effect in reducing the temperature; linseed and mustard poultices are sometimes ordered. The patient must be encouraged to take plenty of nourishment in a liquid form; most doctors order some stimulant and stimulating medicines from the first. Care must be taken to keep the mouth and teeth clean, as they are very liable to become furred.

Pneumonia patients are very liable to suffer from sudden heart failure, so they must not be allowed to sit up suddenly or to exert themselves in any way.

The temperature is often very high (especially in children) and the pulse and respiration *very* rapid; when the crisis comes the temperature usually falls very rapidly, and it is then that extra stimulants—hot coffee, more brandy, strychnine, etc.—are urgently required lest your patient slips through your fingers from exhaustion. Pneumonia patients are frequently delirious and require most careful watching.

Alcoholic patients stand a very bad chance of resisting a

sharp attack of pneumonia, especially if both lungs are affected.

Pleurisy, or inflammation of the pleura (or coating of the lung).—The nursing treatment only varies from that of pneumonia in that the pain (which is often very acute) is generally relieved by hot fomentations, by turpentine stoups, hot poultices, by counter-irritation (in the form of blisters, or of iodine painted on), or by tight strapping being applied.

Sometimes effusion of fluid occurs and this may have to be drawn off, or "aspirated"; sometimes this fluid rapidly turns into pus and this is called an "empyema"; this is sometimes aspirated, but it is more usual for an operation to be performed, and a small piece of a rib may be removed so that the pus can escape, and a drainage tube is inserted for it to drain through.

If a patient is going to be aspirated in the ward, besides the aspirating apparatus (the needle of which must be boiled) you must get ready some antiseptic lotion and swabs and some ether or benzine to clean up the spot; one or two three-cornered dishes, a small piece of sterilised gauze and some collodion and strapping; also half an ounce of brandy ready mixed with water, as the patient may become faint and you cannot run away to get it during the operation.

Phthisis, or consumption.—A disease due to a germ or micro-organism which sets up irritation and inflammation in the lung substance; this inflammation (unless checked in its earliest stage) goes on till parts of the lung become solid, afterwards breaking down with suppuration and forming cavities. Patients with phthisis used to be kept in warm rooms and protected from any draughts; at the present time they are encouraged to live in the open air as much as possible; this treatment is more easily carried out in countries where the climate is less variable than in England;

so that when patients with *early* phthisis can possibly go abroad (to a suitable climate) it is generally best for them to do so, but it is a sad sight to see a patient in the later stages of the disease far away from home and friends and depending upon strangers for the attention he so much needs.

The temperature in phthisis is often very high at night and normal (or nearly so) in the morning; in spite of this variable temperature most doctors like them to be well fed up with nourishing (but easily digested) foods, as great wasting is generally found to be present.

The patient should be weighed once a week and a record kept on his chart; if he is losing weight it must be considered a bad sign, and you must try to get more food, or more nourishing food, down. It is important that these patients should not see their charts, as they sometimes get very depressed if they note that they are losing weight, etc. You must notice whether the patient sweats at night, whether he has any diarrhœa, etc. Hæmoptysis is frequently present; for this absolute rest is essential, no hot drinks should be allowed, but ice should be given to the patient to suck, and sometimes ice bags are applied to the affected part of the lung; the doctor will probably order opium. The nurse must pay special attention to the prevention of the spread of the disease; remember that the expectoration is far more infectious when it becomes dry; we have spoken already about the care necessary in dealing with the expectoration mugs and with handkerchiefs (or rather the rags used for handkerchiefs).

Heart disease.—There are so many forms of heart disease (most of them being very distressing to the patient) that it is difficult to know where to begin and where to end in speaking of them, but the chief thing for you to remember is that where there is *any* disease of the heart, it is your

part to see that the patient gets as complete rest as possible. You must never be hurried in washing, feeding or doing anything for a bad heart case, and they must not be allowed to take any quick movements or to exert themselves in any way; a little extra strain on the diseased (and already over-strained) vessels of the heart may have a very serious effect.

Most heart cases are more comfortable when well propped up with pillows; in some cases they find relief in having a bed-table placed across the bed in front of them, with a pillow on it for them to rest on; in some cases to have the legs hanging down gives some relief, and they are best carefully propped up in an arm-chair with a table in front of them to rest upon; they are often very restless and wish to move backwards and forwards (from bed to chair) very frequently; you must impress it upon them that they must not attempt to do this without calling you to assist them; of course constant moving about is bad for them, but if you realise how terribly uncomfortable they are you cannot be surprised at their *trying* to improve matters by a change.

In some forms of heart disease the patient spits up blood; dropsy is often present in the later stages of the disease and causes much additional discomfort; sometimes the legs become so swollen that they have to be pricked in several places to allow the fluid to escape; you must, when this is done, be very careful to keep them clean and aseptic, or bad sores will follow; it is best to wrap them in boracic lint and change it frequently, until the leaking has quite ceased.

Patients with heart disease are often very irritable and unreasonable; you must look upon it as part of the disease, and try to humour them as much as you can, without giving in to anything that will really harm them; they often have very little appetite and it is important to study their tastes as much as possible; everything that is taken to them should

be nicely and daintily served; sometimes cocoa or bovril would be accepted in a pretty little cup and saucer when a thick mug or feeder would be pushed away. The nurse must be very careful and punctual in giving whatever stimulant or medicine is ordered for these cases; a little delay might be very harmful.

Meningitis, or inflammation of the membranes of the brain, commonly called "brain fever".—This is a disease that most frequently attacks children or young people, and it may be caused by injury or by tubercular disease, etc. It generally begins with headache and the child becomes very irritable; it often cries out in its sleep (a peculiar shrill scream) and it generally lies with its eyes half open. The head is thrown back, and in severe cases the whole body becomes very rigid. Children in this condition are generally very difficult to feed, and they waste very rapidly if sufficient nourishment is not got down; so much time and patience is necessary in trying to make them take their feeds, and often it becomes necessary to have resource to nasal feeding.

They must be kept as quiet as possible and the room must be darkened. Ice bags should be applied to the head to relieve the pain, and the bowels must be kept well opened.

The temperature is often *very* high, and cold sponging may be ordered. The greatest care is necessary to keep them free from bed-sores.

CHAPTER XVI.

Infectious diseases—The nursing of typhoid fever.

I THINK it is a great loss (from an educational point of view) that in some general hospitals cases of typhoid fever are not admitted, and so a nurse may only get experience with these cases by going to a fever hospital. One of my reasons for regretting this is that if you have learnt to nurse typhoid fever *well* (and it takes some time to learn) you will then be fairly capable of nursing most forms of medical diseases; and my other reason is that when typhoid fever *is* nursed in a general ward it is done so with such careful precautions against the spread of infection, that every nurse soon learns what precautions are necessary and is more useful to the doctor when called upon to nurse a case in a private house.

A case of typhoid fever when admitted into hospital is usually in a fairly advanced stage; of course the first symptoms are a feeling of weariness, headache and a temperature rising slightly every night and down again in the morning; as a rule it is only patients who are in hospital for something else, and who then develop typhoid, who you may see in this early stage; it is more common for them first to come under your care with a high temperature (slightly lower in the morning), a furred tongue and, sometimes, considerable tenderness over the abdomen; it is then for you to consider how you can best place them under the most favourable conditions for recovery.

When possible choose a *quiet* bed, not too near the fire, not by the door where people will be constantly passing backwards and forwards, and yet it must be a bed where you can easily watch the patient and where (especially) the night nurse can have him well under observation, for he will probably be delirious if he has it badly, and any sudden sitting up, or attempt to get out of bed, may easily be fatal; if possible it is wise to place him not far from the lavatory door as he may have diarrhœa, and it is better not to carry the infectious stools past more patients than is necessary.

Having considered the position of the bed, you must next consider the bed itself; remember that under the most favourable conditions the patient will probably spend five or six weeks in bed with a most exhausting disease and on a low diet.

The wire mattress beds we have in hospital are quite suitable, and you must see that the hair mattress is a sound one and not one that will easily go into holes, and this mattress should be protected by a long bed mackintosh. Then we come to the bed-clothing and to the patient's clothing, and you must first of all try to get it out of your head that you are nursing a chest case or a case of Bright's disease. The bedding must be very light; a heavy quilt (bad for all sick people) cannot be tolerated in a typhoid case, and is better replaced by a white sheet that can be frequently washed; except in very cold weather one blanket is generally sufficient, and this is *not* placed next to the patient. Most doctors prefer their typhoid patients to wear cotton shirts, and these should be open all down the back so that they are disturbed as little as possible when the shirt has to be removed at frequent intervals for sponging, etc.; a flannel jacket can be added if the weather is cold.

I think many nurses would save themselves (and their

patients) from many a "cold sponging" if they paid more attention to *light* clothing. I have so often found a weak man wrapped up in several thicknesses of shirts and with three or four heavy blankets over him, and have not been surprised that great difficulty was experienced in keeping his temperature down.

Of course you must not forget that pneumonia is a complication that you must be on the look-out for, so that draughts and cold winds must be avoided, and if they cannot be avoided extra clothing must be added to counteract them; also remember that when the patient's temperature falls the collapse may be very great and that hot blankets and hot bottles may then be required.

A typhoid patient must be washed and sponged *all over* every morning, and when possible he should also be sponged over in the evening as well; this keeps his skin in good order, promotes a healthy perspiration and often soothes him to sleep well; patients who are treated in this way from the first seldom have such bad attacks as those who are not taken in hand (from a nursing point of view) from the first.

Great attention must be paid to his back and to all prominent parts which are liable to bed-sores; if he is very emaciated it may be necessary to rub these parts every two hours, and all pressure may have to be avoided by the use of air cushions, or by ring pads (for the heels, for between the two knees, etc.); about every two hours also his position in bed should be changed, letting him be propped over first on one side, then on his back and then on the other side; it is a good plan when the patient is very ill to make a rule of going to him every two hours, turning him over, rubbing his back, etc., and making him quite comfortable, then cleaning his mouth and giving him his feed; when it is time to take his temperature, etc., this should also be done *before*

you disturb him by turning him over; in this way it is possible for him to obtain more rest (which is of the greatest importance) than is possible with a fidgety nurse who first comes to do one thing for him and then another. Great pains must be taken to keep his mouth and teeth clean and sweet, as it makes a great difference to his being able to take the fluid diet that will be necessary; sometimes a mouth-wash is ordered, but the usual glycerine, borax and lemon-juice is generally quite sufficient if it is used from the first.

We then come to the question of diet, and it is impossible to say anything very definite in the way of rules to go upon, as doctors vary a great deal in what they like given and patients vary a great deal in what they are able to take and to digest.

Some doctors give only milk or milk and barley-water for the first few weeks; others allow occasional feeds of beef-tea, bovril or cocoa from the first: others allow some thickened foods to be given all through the illness, providing the patient has a fairly clean tongue and is able to *care* to take it, and with this diet the great wasting and prostration is much less; but you will be given orders with reference to the diet of each case, and you must be careful to carry them out exactly.

Five ounces of fluid every two hours (that is to say three pints in the twenty-four hours) is what is generally ordered for an adult; if he is thirsty he may have plenty of plain water to drink between his feeds. If he dislikes milk very few doctors object to your flavouring it with tea, coffee or cocoa, providing it is carefully made and strained; some patients much enjoy tea made with milk (instead of water), and bovril also mixed with milk is sometimes liked and is very strengthening.

The stools must be carefully watched, and any curds or

undigested milk observed in them must always be reported to the doctor, who will probably order that the milk should be peptonised. The great question of when it is safe to begin giving solid food is, fortunately, always decided by the doctors and they vary a great deal in what they like done. When you are allowed to increase the diet it is generally best to begin by thickening the milk *slightly* with carefully made Benger's food, or well-boiled arrowroot or cornflour; then each day make this food a little thicker (not for every feed, but for two or three feeds in the course of the day) until the patient has the joy of eating it with a spoon; then beaten-up eggs, a light custard, sago pudding, well-boiled breadcrumbs and milk, then thin bread and butter without crusts, fish, etc., is the usual sequence of increased feeding; and when doctors know that they can depend upon your giving these thickened foods with every care and discretion they may allow you to begin some time before the old regulation time of "ten days with a normal temperature at night".

Visiting day is an anxious one when there are typhoids in the wards, as their friends (or other patients' friends) cannot understand that hard ginger-breads or green apples are unsuitable diet for typhoid patients.

The great danger to life in typhoid fever is usually from excessive hæmorrhage or from perforation of the intestine; the little ulcers on the intestine cause the wall to become so thin that anything not *quite* fluid passing over it, or a sudden move in bed, or the patient attempting to get out of bed, may cause it to perforate, and sometimes even when *every* precaution is taken the ulcer may perforate through. When this occurs it is usually followed rapidly by peritonitis and death; sometimes, if it is clear that there is perforation, an operation is performed, but it is *very* difficult to find out exactly when perforation has taken place, and if the operation

is not done very soon after it is somewhat hopeless. I tell you this chiefly to show you how important it is for the nurse to be very accurate in taking and registering the temperature and pulse, as any sudden rises or falls, especially any sudden quickening of the pulse rate, may be the first sign of perforation and should be at once reported ; the other danger signals are abdominal pain, distension of the abdomen, pallor and restlessness, and none of these symptoms must ever be overlooked or neglected.

A patient with typhoid fever is always liable to failure of the heart's action, and for this reason, also, all sudden moves or changes of position must be avoided. Sometimes a little stimulant is ordered, brandy, whisky, or champagne—but if it is ordered early in the disease only a small quantity is generally given, because you must remember that you have many weeks to look forward to of increasing weakness, when it may be necessary to depend a great deal on stimulants to keep the patient going, and it is well to keep something in hand ; also it is not generally considered wise to give stimulant where there is any tendency to hæmorrhage from the bowel, and if this should occur in a patient already taking a good deal of stimulant, it might be dangerous to have to leave it off. Sometimes there is a good deal of hæmorrhage from the bowel, and you must notice whether it is fresh hæmorrhage (that is to say bright red) or whether it is dark and has probably been in the bowel some time ; occasionally a patient will seem much relieved after he has had some hæmorrhage and his mental condition will become much clearer, but whenever there is *any* hæmorrhage he must be most carefully watched lest it should become excessive if not checked.

Sometimes diarrhœa is very troublesome ; sometimes there is constipation ; it is not generally thought well to take any

very active steps to check the diarrhœa (unless it is very severe), but you must avoid giving beef-tea, etc., while it continues; the constipation is generally treated by the use of simple enemata every day or every other day and *not* with aperients. Headache is often very troublesome, and can sometimes be relieved by an ice bag to the head or by the application of very hot sponges to the back of the neck.

Women and children are far more comfortable if you can persuade them to have their hair cut short *at first*, and as it generally comes out in large quantities after typhoid fever (if not cut off) you should remind them that if cut off early, the six or eight weeks' retirement gives an opportunity for a fairly good new growth before they appear in public again.

If the temperature persists in keeping high various means may have to be employed to reduce it,—tepid, cold or ice sponging, cold packs, ice rubbing or ice cradles, and I described all these forms of treatment when speaking of the application of cold.

Typhoid fever is not (we believe) infectious through the air, and for this reason, if certain precautions are observed, it can be nursed with safety in the general wards, but when this is done every nurse in the ward must thoroughly understand how the infection is taken and what precautions must be used.

The stools and the urine must both be considered highly infectious; unless they are required for examination they should be passed into vessels containing a little disinfectant (hyd. perchlor., 1 in 1000, does well), afterwards more of the disinfectant should be added, and then they should stand covered over for a quarter or half an hour before being emptied down the drains. The evacuations are said to be far more infectious when they have been exposed to the air

for some time than immediately after they have been passed; for this reason all soiled or wet linen or bedding must be immediately changed and should be placed in a covered bucket containing some carbolic lotion, 1 in 20, which must be brought to the bed-side, and the linen must *never* be placed on the floor of the ward or lavatory while waiting for the bucket; after it has been soaking for two hours in the strong lotion it can go to the laundry and there be boiled before it is washed.

Everything—cups, feeders, bed-pans, basins, enema syringes, medicine glasses, thermometers, etc.—used for a typhoid case must be kept for his own use entirely and must be washed up in his special bowl and dried with a special cloth; it is usual to mark all these things with a large T, or with the patient's name, and to do his washing-up in the bath-room, so as to be sure there is no risk of things being mixed in the kitchen.

A bowl of some disinfectant, changed twice a day, together with a nail-brush and a towel must be kept at the foot of the bed, and the nurses must be most careful to thoroughly cleanse their hands every time they do anything for the typhoid patient and before they touch anything else in the ward or any other patient; they must also be very careful not to put their hands up to their mouths or faces while they are handling the typhoid case, and to be *most* particular never to take any food until they have thoroughly disinfected their hands.

You very seldom hear of an old nurse contracting typhoid fever from a patient; it is nearly always the young nurses who are not sufficiently conscientious in these disinfecting processes.

If you ever find yourself in charge of a case, or cases, of typhoid fever and there is no disinfectant to be obtained (as

I have done abroad), don't be frightened of it; use plenty of soap and water; pour boiling water on the linen or, if you can get a vessel large enough (empty paraffin cans are very useful), boil the linen out of doors; and have the stools and urine deeply buried after you have poured boiling water on to them, and you will probably get through all right.

I have spent rather a long time in speaking of this one disease, and still there are many more things one would like to have mentioned,—I have said nothing about the duration of the different stages of the disease, about the rash, etc., and nothing about the tiresome relapses to which these cases are subject, but you will hear of these in your medical lectures, and I hope I have remembered to tell you of most of the important nursing points to be remembered.

Perhaps I have not said quite enough on the subject of the danger of bed-sores; the wasting caused by the exhausting nature of the disease and by the high fever which often continues for so long, makes these patients especially liable to bed-sores, unless they are guarded against from the first, and the additional exhaustion caused by a bed-sore is worth taking any trouble and time to avoid.

CHAPTER XVII.

Infectious diseases (*continued*)—Rigors.

A TRAINED nurse may at any time be called upon to nurse a case of infectious disease, and it is quite possible she may never have seen a case of the kind before; if all nurses who are going to take up private nursing could spend a year (or even six months) in a fever hospital, in addition to their general training, it would be a great advantage to them and to their future patients.

Some nurses are very nervous about "catching things"; it is the greatest mistake to imagine that you are likely to become infected; you are not likely to be told off to act as special with an infectious case unless you are in good health, and then your blood is sufficiently antiseptic to withstand the invasion of most germs that try to find a settlement in it; but you must take great pains to learn how the different diseases are infectious and how the infection is carried; and you must also be careful to keep yourself in good health, and your blood in good *resisting* order, by going out in the fresh air every day and by taking plenty of nourishing food.

Since I have been nursing I have nursed most forms of infectious disease—from small-pox and plague, down to chicken-pox and whooping-cough—but only once became infected (with scarlet fever), and then put it down to the

fact that I took it from a case that had been diagnosed as something quite different and so did not take any precautions; but you must all know when you choose your profession that there is bound to be a certain amount of danger to health, and no good nurse would think of shirking attendance upon a sick man, who she might be able to bring back to health and strength, just because he is "infectious".

You all know that the infection of disease is now known to be due to a germ which can reproduce the disease when it finds its way into a suitable place for its growth. The germ enters the body by the lungs, by the skin, or by the alimentary canal; the time that the germ takes to develop (after it has found an entry) varies greatly in different diseases; it is called the "incubation period," and during this time the infected person may be quite well and perfectly unconscious of its presence.

Before speaking of a few of the various infectious diseases that you are most likely to meet with in England, I think I had better say a little about isolation and disinfection, as you will find the friends of any person struck down by an infectious illness in a very agitated condition, with very hazy ideas of what should be done and what should not be done, and expecting the nurse to be able to give them much information on the subject.

I have already told you about the infection in typhoid fever being in the excretions of the patient, and that when proper precautions are taken they can safely be nursed among other patients, but should you be sent to nurse a case of small-pox or scarlet fever, etc., you must remember that the infection takes place partly through the air, and, as you know the air naturally flies upward, it is best when possible to choose a room at the top of the house (where there is no passing to and fro) for isolation purposes.

Keep the window open and the door shut as much as possible, and a carbolic sheet constantly wet (with carbolic lotion, 1 in 20) hanging outside the door. Before you move the patient into the room remove all heavy curtains and carpets and unnecessary furniture, and see that all cupboards and drawers are emptied of clothes, etc. Make sure that the chimney is not blocked up, as you must have plenty of ventilation, and a bright fire is one of the best ventilators. Mark every cup, plate, etc., that is brought into the room, and be sure that they are washed up separately and kept for your patient's use alone. It is better to destroy all remains of food before they are taken away from the room to insure that no one else should handle them—not even the cat! Provide a basin of some disinfectant for the doctor's use, together with a nail-brush and a towel.

All the linen must be soaked for some time in carbolic lotion, 1 in 20, before being sent to the wash, and should, if possible, be washed separately.

You must be careful never to go out-of-doors in the same clothes that you wear in your patient's room.

Before the patient is allowed to mix with other people it will be necessary for you to disinfect him by the use of carbolic baths, paying especial attention to the hair, etc., and seeing that after his final carbolic bath he puts on entirely clean clothes that have not been in his room during his illness.

Then, having disinfected your patient, you may find it necessary to disinfect the room, and you can take this opportunity of disinfecting all the clothes you have worn during your attendance upon him.

The chimney must be securely stuffed up with paper or old sacks, any ventilator and the sides of the windows must be pasted over with newspapers, then (for an ordinary sized room)

about a pound of sulphur or some formalin tabloids, as directed, should be placed in a tin on the top of an inverted bucket and a few drops of methylated spirits poured over it and lighted, then at once leave the room and lock the door, pasting paper all round the door to keep it air-tight.

It should be left for about twelve hours, and then the door opened and left for a short time before you go in to open the windows. The room and all the furniture should then be scrubbed with carbolic soap, and the linen, etc., soaked in carbolic lotion, 1 in 20, before it is sent to the wash.

Measles.—The incubation period is from ten to fourteen days, and then the patient generally begins with the symptoms of a bad cold, sneezing, running from nose, eyes, etc., and sometimes a cough. The rash generally comes out about the fourth day, beginning on the face, neck and arms and then spreading downwards; the rash lasts for about five to seven days. The nurse must remember that the discharge from nose, eyes, etc., is highly infectious, and pieces of old rag or butter muslin should be used to receive it on and then burnt at once.

The patient must be kept in bed in a warm room, as the great danger in measles is the pneumonia or bronchitis which so often follow. The glands in the neck may be painful and enlarged and hot fomentations can be applied.

Most doctors allow these cases to have light diet (without meat) all through the attack, unless the fever is very high, in which case they are kept on fluids only.

Scarlet fever or scarlatina.—The incubation period is from two to five or six days. The patient sometimes first complains of headache, or of sore throat, or (especially in children) it may begin with vomiting. The fever is often very high, and the patient feels very ill and miserable. The rash generally appears on the second day and lasts for three or four days;

it generally begins on the neck and chest, spreads to the face and arms, and then continues downwards until the whole body is covered. The patient must be kept in bed, warmly clothed in a well-ventilated room ; he is generally kept on fluid diet while the fever lasts.

If the throat is very bad, sprays, gargles or painting will be ordered, and the treatment will have to be applied very frequently and regularly or a badly ulcerated throat will be the result.

There are many different diseases which sometimes follow scarlet fever, and even quite a mild attack of scarlet fever may be followed by a very severe illness unless great precautions are taken to guard against cold or chill in the convalescent stage ; amongst the chief diseases to be feared are Bright's disease, rheumatism and middle-ear disease.

Patients with scarlet fever often complain of earache, and this should be reported to the doctor, who may order the ear to be syringed with boracic lotion and then some warm wool applied.

The nurse must notice how much urine is passed ; it must be frequently tested, and if any albumen is found it must be reported.

About the time that the rash fades away, desquamation generally begins, and the patient cannot be considered free from infection till this has quite ceased (and it may continue for some weeks). Some doctors order for patients who are "peeling" to be freely rubbed with carbolic oil or some disinfectant ointment, to prevent the flakes from being drifted about in the air, but I think that it is more common now to give them frequent baths (often twice a day) with some disinfectant added.

Diphtheria.—The incubation period is from one to eight days. In some patients the onset is very sudden, in others

it is gradual; the cases of sudden onset are usually the most severe, as it generally means that the bacillus has first attacked the throat in the region of the larynx, and though on looking down the throat you may not be able to see anything except a little redness, within a few hours of the child first becoming ill, it may be struggling for its breath, covered with perspiration, having a "croupy" coup, becoming blue in colour, and with the chest walls "sucking in" with every inspiration. In cases of gradual onset the first symptoms are those of an ordinary cold and the child seems dull and tired. He may be slightly feverish, and there is sometimes swelling of the glands of the neck, and sometimes a nasal discharge.

On inspection, in these cases, the throat is generally found to be very red and swollen with small greyish-white patches of membrane on the tonsils, uvula and pharynx; these patches gradually spread and are sometimes described as looking like patches of wash leather.

At any time the disease may spread till it attacks the larynx, and then you at once get all the acute symptoms of obstruction to the breathing that I mentioned with reference to cases where the onset was sudden.

The patient must be kept in bed in a warm (but well-ventilated) room, and he must be kept lying very quiet and not allowed to exert himself at all, as patients with diphtheria are very liable to heart failure.

Milk diet is generally ordered, and other strengthening liquid foods; many doctors like them to have some stimulant (in small quantities) from the first.

You may be ordered to paint the throat frequently, and if the patient can gargle that will also be ordered, but if he cannot gargle you may have to syringe the throat and use a spray; "Seigal's spray" is very useful in these throat

cases; in cases of nasal diphtheria it is also necessary to syringe the nose at frequent intervals. The doctor will order what he prefers used for syringing, spraying, etc.

You must remember that the discharge from nose and throat of diphtheria patients is most highly infectious; they must be provided with rags or butter muslin as handkerchiefs, and these must be burnt immediately after use.

Nurses should be careful not to bend over their patients more than is absolutely necessary, and to be very careful not to have the child cough or sneeze into her face; she should not on any account, however fascinating the child may be, allow herself to kiss a child with diphtheria, even when it is convalescent, and she must be most careful to thoroughly disinfect her hands before touching any food; in some hospitals it is a rule for the diphtheria special nurses to gargle with Condy's fluid before going down to meals.

Any one nursing a case of diphtheria must realise that the utmost watchfulness is essential day and night, as at any time the acute symptoms of obstruction to breathing may come on and tracheotomy become necessary at once if the patient's life is to be saved.

Sometimes it is difficult to decide just when you must send for the doctor with a view to tracheotomy, but if you find your patient looking blue, especially about the lips, finger-tips, etc., and that the colour is gradually becoming worse instead of improving, and if you find that the chest walls and abdomen are "sucking in" with every inspiration, you are generally safe in sending an urgent message to the doctor. Moist heat in the form of steam kettle and hot fomentations round the neck sometimes give relief in the meantime; we have spoken about tracheotomy cases elsewhere.

Sometimes the pain in swallowing is so great that patients will refuse all nourishment and nasal feeding then becomes necessary ; occasionally patients can swallow thickened foods, such as arrowroot, cornflour, Benger's food or custard, better than those that are quite liquid.

Paralysis is one of the complications to be feared in diphtheria ; the first symptom is generally a change in the patient's voice (a nasal tone about it) and some of the fluids given may return through the nose, or (in tracheotomy cases) through the tube ; this paralysis does not usually appear until the child is fairly convalescent, and many doctors keep their diphtheria cases in bed and lying as flat as possible for some time after the diphtherine membrane has all disappeared, till they feel sure that they are safe from this complication and also from the danger of sudden heart failure.

The other complications to be guarded against are pneumonia (broncho or septic) and blood poisoning.

During the attack of diphtheria the patient's temperature and pulse are generally raised, the glands of the neck are often swollen and tender, and there is generally albumen in the urine.

Small-pox.—The incubation period is about twelve days. This seems to be about the *most* infectious of all the infectious diseases we have in England. It is the rule in many hospitals that when nurses enter for their training they must have been recently vaccinated, and it is a very good plan, as you can never tell when there may be an outbreak in the district around your hospital, and when one occurs you may come in contact with some of the cases before it has been possible for you to be re-vaccinated. I once saw ten cases in the out-patient department of a general hospital in three or four days, and then all the nursing staff

had to be hastily vaccinated at great inconvenience to the work of the hospital.

Small-pox generally begins with a sharp feverish attack, often with a rigor (or, in a child, with convulsions), with vomiting and with severe pain in the back. The rash generally comes out on the third day of the fever; it begins on the face (especially up at the roots of the hair), it then spreads to the neck and arms, then to the body and then to the legs; in some cases it is fully out in twenty-four hours, in others it is three or four days before all the spots have appeared. When the rash first comes out the spot feels hard to the touch, as though there was a small shot under the skin; after about three days the spots begin to contain a little fluid, and during the next two or three days the face gradually swells and the pustules fill up until (sometimes) the patient can hardly open his eyes. About the eighth day a dark spot appears on each pustule, and soon after matter begins to ooze out and the pustule dies into a scab. This process continues from the face downwards, in the same order as that in which the rash appeared. When the rash is very thick the pustules sometimes run together, and it is then called "confluent small-pox".

The terrible itching in small-pox is very difficult to bear, and various lotions or ointments are ordered to try and allay it. It is very important that the nurse should bathe the eyes very frequently with boracic lotion (unless any special lotion is ordered) and to keep them as free from the discharges as possible; everything used to absorb these discharges should be instantly burnt.

Patients are often very delirious with small-pox as the fever runs very high, and they need constant watching (especially children) to prevent them from rubbing the rash. They must be kept in bed in a well-ventilated room.

Of recent years it has been noted that small-pox recovers more quickly, and with less marking, when it is treated in a red light, so many small-pox wards have red glass in the windows; in any case a bright light is painful to a man bad with small-pox, so it is well to darken the room.

The diet ordered is generally plenty of liquid food and cooling drinks; in severe cases stimulants may have to be given freely. Tepid sponging sometimes gives relief.

The complications to be on the look-out for are pneumonia, bronchitis or pleurisy; abscesses may form, and sometimes there is erysipelas; unless great care is taken of the eyes there may be conjunctivitis, or the eye may even be destroyed by suppurative keratitis.

There is one form of small-pox which is generally fatal; it is called "hæmorrhagic small-pox"; and in it you may have severe bleeding from the nose, lungs, kidneys, rectum or uterus.

I don't think that I will take up your time in speaking about any of the other infectious diseases, having just touched upon the most serious of those that you are likely to be called upon to nurse in England.

Rigors.—I have several times mentioned a "rigor" in the course of these various diseases, without saying what I meant by it, and some of you may not yet have seen one.

Many illnesses, such as influenza, pneumonia or other acute or infectious illnesses, begin with a rigor—that is to say, a bad attack of shivering, which is sometimes so violent that the patient shakes from head to foot and may even shake the bed too.

The patient will complain of feeling very cold, but he feels hot to the touch, and if you take his temperature it will be raised, sometimes going up to 105° or even higher. The

nurse must pack him up with hot blankets (five or six of them) and hot bottles, and give him hot drinks; if he is a case that you know may have brandy, give an ounce of hot brandy. Notice the length of time the shivering lasts. Take the temperature while the patient is shivering and also about half an hour after the shivering ceases, as sometimes the temperature goes on rising after the actual shivering is over; but get his hot blankets, etc., before you trouble about the thermometer, as they will do the patient more good by cutting short the rigor or, at any rate, making the patient more comfortable, than by the exact knowledge of what his temperature is.

CHAPTER XVIII.

Babies and their feeding—Economy in the use of hospital property, etc.

In thinking about sick babies and their feeding we naturally think first of the feeding bottles, and on the absolute cleanliness of the bottle a great deal of the success of infant feeding depends.

Each baby should have two bottles in use, the second one (after it has been cleaned) being kept soaking in a basin of clean, cold water.

The bottle should be removed as soon as the baby has finished its feed, and not left to get sour; it should then be thoroughly washed out with hot water, using some tea-leaves if necessary to get it quite clear, and then left in the basin of cold water with the nipple and cork both detached and left loose in the water.

The question of the amount of food to give an ailing baby is so complex—depending as it does on the age, size, disease and previous habits of the baby—that I am almost afraid to give you any general rules, but will try to tell you roughly what quantity many people agree to be right for the average healthy baby, and you must understand that it may have to vary a good deal to suit the individual child, and I would recommend you to carefully watch (and make notes of) the way different babies with different diseases are fed in the hospital in which you are working, and it

will be most useful to you afterwards when you may be called upon to direct the feeding of some sick baby.

When a baby has to be brought up by hand it is very important that its feeds should always be given at the same temperature, about 97° or 98° is the most suitable, and at regular intervals; up to the age of six weeks it should be fed every two hours during the day and every four hours during the night; from six weeks to three or four months it should be fed every three hours during the day and gradually increase the interval between the feeds in the night until the mother or nurse (and the baby) get six hours consecutive sleep.

After four months the baby should be fed five or six times in the twenty-four hours, with intervals of not less than four hours between each feed—that is to say, if you start at six A.M. the next feed comes at ten A.M., then two P.M., six P.M. and ten P.M.; if the baby will then sleep until nearly six A.M. (as many healthy babies will do), the five feeds are sufficient, but if not the sixth feed should be added between two and three A.M.

For the first two days of a baby's life very little food is required at all; by the fourth day the baby should be taking about half a pint (less if it is a small baby) in the twenty-four hours, and this should be gradually increased until by the sixth or seventh day it is taking about a pint; this is generally sufficient until the baby is about a month old, and from that age the feeds should be gradually increased until at six months old the baby is taking two pints of milk and one pint of water or barley water in the twenty-four hours. The amount of water or barley water that should be added to the milk for tiny babies depends a good deal upon the quality of the milk; roughly, up to the age of one month one part of milk to two parts of water should be given, for

the next month equal parts of milk and water, and from then gradually increase until you arrive at two parts of milk and one of water. From the first a small quantity of cream may be added; from one teaspoonful to four teaspoonfuls in the twenty-four hours, according to the age and size of the baby.

Up to the age of six months nothing but milk is really necessary for the child; after six months it is often well to add to the diet one or two meals a day of some prepared food, such as Allen & Hanbury's, Mellin's, or Savory & Moore's.

At eight or nine months old a little well-boiled bread and milk may be added once a day, and once a day, also, some gravy or broth with a little bread in it, or a little milk pudding should be given; but milk should still continue to be the child's staple food.

After the baby is a year old oatmeal porridge, a lightly boiled egg, a little mashed potatoes or greens with gravy, bread and butter or bread and dripping, stewed fruit, boiled fish, and well-minced under-done meat are all things than can be slowly added to the diet.

Suitable food at regular intervals, suitable warmth and perfect cleanliness are absolutely essential for all little children, especially sick ones, and when they are kept under these conditions they are generally happy and good; constant crying in a children's ward generally indicates an inobservant nurse who cannot appreciate the wants of the little ones, as you must remember the babies have no means of explaining they are in pain or discomfort except by crying.

When babies are fed on cow's milk it must be diluted either with boiled water, barley water, or lime water; and if a suitable mixture of one or other of these things cannot be taken and digested, then the milk must be peptonised, that is to say partly "predigested".

There are several ways of making peptonised milk, and I expect most of you know how to do it. The following is perhaps the most simple way :—

Take one pint of fresh milk and five ounces of water, add one drachm of the solution of pancreaticus (or one tube of the peptonising powders) and twenty grains of soda bicarb. ; put it in a double enamelled saucepan and stand it in a warm place at a temperature of about 140° for twenty minutes and then bring it to the boil ; do not allow it to go on boiling, but pour it off and stand it in a cool place ; if you are only making a little for immediate use it is not necessary to boil it up (after standing for the twenty minutes), but if you leave it standing longer than for the twenty minutes, without bringing it to the boil to stop the digestive process, and then give it to a patient, most of the value of the milk will have been lost.

There is one other kind of milk that some doctors frequently order for weakly babies brought up by hand, and that is "humanised milk," that is to say milk that has been treated by removing some of the constituents until it is as like the human milk as it is possible to make it.

There are many dairies in London and other large towns where they prepare it, or you can make it yourself if you follow this prescription :—

Take some milk as fresh from the cow as possible and let it stand in a bowl for two or three hours and then skim off the cream ; divide the skim milk into two equal parts and make one part into curds and whey by adding a little rennet, then pour off the whey and add it to the portion of skim milk that you did not put any rennet to (throwing away the curds), then add all the cream that you had skimmed and a little sugar, or sugar of milk.

Some babies if they get a little out of order, generally

from careless or improper feeding, do not seem able to take milk (even in its most digestible form) without vomiting, and for these cases of obstinate vomiting it is often best to put them on nothing but albumen water for a day or two, and then give alternate feeds of albumen water and barley water, and from that progress by adding a *little* milk to the barley water and increasing the milk very gradually as you find the child is able to digest it.

I think many people make a mistake in persisting in the use of milk when a few days' rest from it may set matters quite right.

Albumen water is very easy to make and very sustaining. Take a pint of boiled water and let it stand till quite cold, then thoroughly beat up the whites of three eggs and add the water to them gradually, with a pinch of salt and a little sugar; the child may be given a small feed (according to its age and size) about one to three ounces every two hours.

There are many kinds of prepared foods that are now a great deal used for babies of all ages and they all have their strong points, and I strongly advise you to notice while you are in hospital which of these different foods are considered suitable for the different kinds of cases we have to treat; but unless some prepared food is ordered, our ambition should always be to find in what form milk (which must be the most natural food for a child) can best be taken and digested; and there are *extremely* few babies that will not thrive and do well on milk if it is suitably prepared and diluted for them.

I know many nurses do not like working in the children's wards, but I considered it is most necessary for them all to do so in the course of their training and to go to work there with the determination to learn all they possibly can about the little people and the little world they live in; it is very

different to our larger world of thoughts and interests, but to them it is a very *real* world, and their joys and sorrows in it are very real and absorbing, even when the joys consist of only a sponge-cake for tea, and the sorrows of a toy being taken away for disobedience!

There is such appalling ignorance amongst the poor about the care of their little children, and such immense suffering is caused to these poor children by this ignorance, that every means that can be devised should be used to instruct the mothers in the simple principles of the care of babies; and I think one of the best means of getting at the mothers is through the medium of the district nurse, so that those of you who are thinking of turning your attention to that kind of work would do well to study the subject of the care of babies in health and disease, and you will never have a better opportunity of pursuing this study than you will have while working in the hospital wards.

Economy in the use of hospital property.—This is such a very wide subject that it is difficult to know what to say to you about it, and yet I know that the things wasted in a hospital form a very serious item in the expenses, and it is only by each one of you trying to prevent it that these unnecessary expenses can be cut down.

It was not very long ago that a certain hospital discovered that the lint bill was too large (compared with other hospitals), and on inquiry they discovered that all the brass polishing in the hospital was done with lint, as no old rags or cloths were provided. I hope none of you use lint for cleaning purposes! Try to notice how much dressing is required for each case and take out the right amount of wool, etc., so that no more may be handled or soiled than will be used.

Try to protect your bed-linen and blankets from being soiled with the careful use of mackintoshes, etc.; frequent washing soon wears out the blankets and it can often be prevented with care.

Remember to turn down the gas or to switch off the electric light when you are not needing it.

Be careful that your saucepans and kettles are never left to boil dry and so get ruined.

Don't pile up a large fire on a warm day because it is less trouble than putting on a little coal frequently, and, lastly, try to notice how much food your patients require and actually consume, and don't take a man two potatoes every day with his meat when you know he only eats one!

It is in all these *little* ways that we must depend upon you to help us in preventing the waste of money which might be so much better used in other ways.

Report everything that is broken or damaged, so that it can be replaced, and never put anything away—a syringe for example—out of order, with the idea that it can be attended to when it is needed again; it *might* be a case of life and death next time it was needed in a hurry.

There is much more that I should like to say, but I think that I have taken up enough of your time in trying to put before you some of the simple nursing duties that we are all expected to understand and to be able to do for the comfort and help of our patients.

You will probably have other lectures on anatomy and physiology, and about medical and surgical cases from the physician's and surgeon's point of view, but all the lectures and instruction we can provide for you can *only* be a real help when you are at the same time going about your work in the wards with your eyes open to see the practical application of the theories we try to place before you.

Those of you who will turn to private or district nursing may never again have such an opportunity for studying medical and surgical cases collected together, so try to learn all you possibly can about them while you are members of a hospital staff, so that in your future career (wherever you may be) you may bring credit, and not discredit, to your training school and your teachers in it.

I am afraid that many nurses are *very* careless in thinking about or in making any attempt to provide for the future.

Our work is very interesting, very absorbing; at the same time it is very wearing and it is (generally) very badly paid for; and we cannot expect to be able to go on working at such high pressure for a great number of years.

I think one of the saddest parts of a young matron's duty is to receive a visit (as constantly happens) from some nurse many years her senior who begs for work; she may have been an excellent nurse, but she is now put aside as "out-of-date"; and one has nothing to offer her and can only try to help her to a post as attendant on some old lady or old gentleman, and for every comfortable post of this sort there will be scores of old nurses only too glad to take it.

We must remember that some time or other we shall also be classed as "out-of-date"; and I think that every nurse as soon as she *begins* to earn a salary should begin to try and save, even if it is only a very little that she can possibly spare.

Let me urge you all to get particulars about the Royal National Pension Fund for Nurses, as I do not think it is possible for a nurse to do better than to join that fund as soon as she possibly can, and every year that she puts off doing so means that she will have to pay a higher premium for the same amount of pension.

Before I close I will just add a word about the nurses when outside the hospital.

I think we should all try to remember that we are members of an honourable profession, and, whether we wear the uniform or not, we are probably known as nurses, and as such must be extremely careful that our conduct is at all times discreet and ladylike. If we do wear uniform out-of-doors let it be very neat and tidy; I think to see a nurse in uniform wearing large bows or flowers looks just as bad as it would look to see an officer of the army with a large buttonhole when in uniform!

With regard to church or chapel going, I'm afraid in some hospitals the nurses find it somewhat difficult to get out to a service every Sunday, and by degrees they are inclined to give up the effort to do so; I would very strongly urge you not to get out of the habit of regular attendance—it is very easily done and very difficult to recover from.

I know many people say that to be a good nurse it is not at all necessary to be a religious woman, and this may be true, but certainly many of our best nurses are those who are true and faithful followers of Him who went about doing good, and who "pleased not Himself".

Every Nurse

SHOULD KNOW THAT

THE MILK TO RECOMMEND

IS

Diploma Milk

WHICH IS PECULIARLY

Rich, Nourishing and Strengthening and Specially Useful in Cases of Difficult Digestion.

Nurse McLucas writes: "I have been most successful with Diploma Milk, and feel sure it has saved several lives in my own experience. I have just left a premature infant, who at birth weighed two pounds. The doctor said it was quite impossible that it could live, but it has done splendidly in every way on Diploma Milk, and at eight weeks old is gaining ten ounces per week. I have been a nurse for sixteen years and have never had anything to compare with Diploma Milk for digestion."

Diploma Milk

is supplied by all Grocers everywhere. Trade enquiries should be sent to

THE WILTS UNITED DAIRIES LTD., DEVIZES.

Give your Patients OXO

One of the most striking features in the success of OXO has been the approval it has met with at the hands of the Medical and Nursing professions. Doctors have prescribed it, and Nurses have used it, and proved that it will do what other foods will not.

OXO is a special preparation of beef extract combined with albumin and fibrin. It is made under continuous scientific supervision, is standardised, and untouched by hand. It is prepared from cattle certified to be free from tuberculosis. Dietetically superior to home-made beef-tea, and much cheaper.

One large Institution saved over £400 last year by displacing beef-tea in favour of OXO.

OXO, 4 Lloyd's Avenue, London, E.C.

Royal National Pension Fund for Nurses.

Patron—
HIS MAJESTY THE KING.

President—
HER MAJESTY THE QUEEN.

Chairman—
EVERARD A. HAMBRO, Esq.

Deputy-Chairman
Sir HENRY BURDETT, K.C.B.

Secretary—LOUIS H. M. DICK.

PENSIONS - SICKNESS - ACCIDENT.

Invested Funds
Exceed ONE MILLION STERLING.

Nurses are invited to join the Fund on account of the substantial and exceptional advantages which it offers them, and which *they cannot obtain elsewhere.* The following are the chief points:—

1. **The Fund is Mutual and essentially Co-operative.**
   No commission is paid to agents.

2. **Easy Payment of Premiums.**
   Nurses can pay their premiums monthly or otherwise as best suits their convenience.

3. **The Fund is open to every Nurse.**
   Nurses can assure for Pensions of any amount, commencing at any age.

4. **An Investment and Savings Bank.**
   Those entering under the returnable scale can have their Premiums returned to them with compound interest, less a small deduction for working expenses, and after seven years even this deduction is not made.

5. **Additions to Pensions.**
   Every five years additions are made to the amount of Pension entered for; substantial additions may be anticipated from these sources. As each increase is in the form of an additional fixed Pension, the guaranteed amount thereby becomes greater.

6. **Sickness and Accident Assurance.**
   Policies are issued in connection with Pension policies assuring 5s. to 20s. a week in cases of incapacity from work through sickness or accident.

The fullest information respecting the Fund is supplied, free of all charge, by post or on personal application.

Address—**The Secretary,**
R.N.P.F.N.,
28 FINSBURY PAVEMENT, LONDON, E.C.

22.T.61.
Modern nursing in hospital and 1907
Countway Library BES9927
3 2044 045 993 581